cgee
Centro de Gestão e Estudos Estratégicos
Ciência, Tecnologia e Inovação

Monitoramento em Biotecnologia
Desenvolvimento científico e tecnológico

3° Relatório

Volume II - Patentes e Países Depositantes

Coordenação
Adelaide Antunes

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MONITORAMENTO EM BIOTECNOLOGIA

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3° Relatório

Volume II

Patentes e Países Depositantes

Executor:
Sistema de Informação sobre a Indústria Química (SIQUIM)
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A Biotecnologia tem sido destacada como tecnologia portadora do futuro e consequentemente, com alto componente de desenvolvimento econômico e social, em vários países, principalmente nos últimos anos. O estudo "Monitoramento em Biotecnologia" encomendado pelo CGEE ao SIQUIM/EQ/UFRJ, permite visualizar a dinâmica de P,D&I desta área, a diversidade de atores envolvidos e o forte escopo de atuação em desenvolvimentos que impactam fortemente "Saúde e Qualidade de vida", bem como a "Agricultura e Meio ambiente", por meio de desenvolvimento acelerado de publicações científicas e de patentes nos Temas e/ou Termos tratados neste estudo.

Reforça-se, então, que este estudo representa um instrumento importante de apoio à decisão aos *stakeholders* atuantes na área, pois permite priorizar ações concernentes ao desenvolvimento e estímulo ao uso sustentável da biodiversidade, à segurança biológica e à produção de bioprodutos, biodrogas, transgênicos.

EQUIPE:

Coordenação Geral:
Profª Dra. Adelaide Antunes

Coordenação Técnica:
Dra. Claudia Canongia

Pesquisadores:

Simone Alencar	Engenheira Química, Doutoranda EQ/UFRJ
Nicomedes Déscio Pereira Neto	Químico Industrial, Mestrando EQ/UFRJ
Ana Carolina Mangueira	Estagiária, Escola de Química EQ/UFRJ
Andressa Gusmão	Estagiária, Escola de Química EQ/UFRJ
Daniel Hoefle	Estagiário, Escola de Química EQ/UFRJ
Fernando Tibau	Estagiário, Escola de Química EQ/UFRJ
Max Arnor	Estagiário, Ciências Atuariais IM/UFRJ

SUMÁRIO

INTRODUÇÃO

Este terceiro relatório, constituído de três volumes, objetiva identificar países e atores (depositantes ou autores) de maior representatividade no Estudo sobre o Mapeamento em Biotecnologia, segundo temas e termos demandados pelo CGEE:

- Volume 1 refere-se aos mais representativos depositantes de patentes (Parte A) e autores de artigos (Parte B), com as respectivas Classificações: Atividade da Economia CNAE do IBGE (patentes) e Áreas do Conhecimento do CNPq (artigos);
- Volume 2 refere-se às patentes apresentando os países e os depositantes conforme distribuição da freqüência;
- Volume 3 refere-se aos artigos apresentando os países e os autores/respectivas instituições, conforme distribuição da freqüência.

Para as patentes são apresentadas as informações título, ano da prioridade/ data do primeiro depósito, número da patente, por país e depositante. No caso do(s) depositante(s) de maior representatividade a classificação CNAE foi adicionada, no entanto cabe chamar a atenção de que a mesma é muito ampla, não permitindo em alguns casos correlacionar de uma forma mais direta, sendo quando possível, necessário chegar ao nível micro, grupo 731 – Pesquisa e Desenvolvimento das Ciências Físicas e Naturais, como por exemplo casse 7310-5 -Pesquisa Biogenética ou Pesquisa Biológica ou Pesquisa de Alimentos etc, que se encontram na divisão 73 - Pesquisa e Desenvolvimento pertencente a seção K atividade Imobiliárias, Aluguéis e Serviços Prestados às Empresas. Para alguns casos, mesmo no nível micro não se localiza um indexador adequado, como na seção N, Saúde e Serviços Sociais, divisão 85 - Saúde e Serviços Sociais, o nível micro corresponde ao grupo 851 – Atividade de Atenção a Saúde.

Para os artigos são apresentadas as informações de título por país e por autor com respectiva instituição. No caso do(s) autor(es) de maior representatividade adicionou-se a indexação da Área do Conhecimento do CNPq, nos níveis macro e meso, e optou-se por também incluir a indexação da base de dados *Web of Science* tendo em vista que a indexação desta base contempla áreas multidisciplinares, inclusive a Biotecnologia.

Como exemplo da indexação segundo áreas do conhecimento do CNPq tem-se: a) Ciências Agrárias no nível macro e Engenharia Agrícola Nível meso; b) Ciência Biológica nível macro e Genética nível meso; c) Ciência da Saúde nível macro e Nutrição nível meso; d) Ciências Sociais e Aplicadas nível macro e Economia nível meso; e) Ciências Humanas nível macro e Ciências Políticas nível meso; f) Ciências Exatas e da Terra nível macro e Química nível meso;g) Engenharias nível macro e Engenharias de Materiais nível meso; e h) Outras Áreas nível macro e Biomedicina nível meso.

É importante observar, conforme primeiro relatório, que certos Temas e/ou Termos não são objeto de patenteamento e/ou de publicação de artigo, no período considerado. Por outro lado artigos e patentes são comuns a diferentes Temas e/ou Termos implicando na análise de mais de 6 mil ocorrências de patentes e 110 mil ocorrências de artigos. A apresentação das patentes que se referem a diferentes Temas e Termos, fazem parte do Anexo do Volume 2; da mesma forma a apresentação dos artigos que se referem a diferentes Temas e Termos, fazem parte do Anexo do Volume 3.

- ✓ *Considerações sobre o tratamento e análise*

No tratamento dos inúmeros Temas e Termos do estudo, nem sempre ocorreu concentração de países, depositantes e autores, dado que a amostra é bastante heterogênea relativo tanto a patenteamento quanto a publicação, implicando em vários casos na <u>não</u> aplicação da metodologia *top ten*. Nos poucos casos em que houve um país com uma representatividade

bastante superior ao segundo país, (ou seja este com menos de 10% do líder), focou-se somente na liderança, identificando o principal depositante e autor.

Nos casos em que na distribuição de freqüência não havia uma liderança expressiva, optou-se por elencar a faixa mais significativa de países, ou seja, o último país a ser considerado representa cerca de 10% do mais representativo. Como exemplo, no Tema Biodiversidade os EUA aparece como principal país em publicação de artigos (840), e o último país considerado foi o Canadá (127). A identificação do(s) autor(es) principal(is) levou em conta este extrato, em que neste caso o principal autor que aparece com 12 artigos é do segundo país do *ranking*, a Inglaterra com 324 artigos ao todo.

Esta metodologia foi aplicada visando não perder aqueles mais significativos autores, o mesmo procedimento foi aplicado na análise das patentes.

Outro exemplo que ilustra bem a necessidade de inclusão de mais de 1 país, mesmo que este apresente freqüência baixa, é o caso de Fitomedicamentos em que o estudo considerou 5 países, sendo o primeiro Japão com 215 artigos, em que todos os autores publicam 2 artigos, e a Alemanha, último país deste *ranking*, com 50 publicações sendo todos de autoria distinta. Neste caso, o *top* autor aparece na Inglaterra, que conta com 53 publicações ao todo em fitomedicamentos, porém o principal autor é Ernst, E, com 19 artigos.

Para aqueles casos em que Temas e Termos não apresentaram nenhuma representatividade, ou seja, baixas freqüências, foram considerados todos os países e conseqüentemente depositantes de patentes e autores de artigos.

Volume II
Patentes e Países Depositantes

Este volume identifica por temas e/ou termos as patentes por países e detentores com maior freqüência que foram objetos de tratamento para obtenção dos depositantes mais significativos apresentados no Volume I Parte A.

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1 Tema: Biodiversidade / Bioprospecção

Neste tema, foram localizadas 6 patentes focadas no período de 1994 a 2004, sendo que, com relação aos países, a liderança é dos Estados Unidos, com 4 patentes, seguidos da Alemanha e Holanda, com 1 cada.
As patentes por país são mostradas abaixo:

Tabela dos **países depositantes** em Biodiversidade / Bioprospecção:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Environmental monitoring and bioprospecting for microorganisms within a specified environment involves locating a suitably configured in situ microcosm array in the environment and trapping microorganisms in the device.	2004	US2004180334-A1
	Analyzing target nucleic acids, used for diagnostics, forensics, gene mapping, identifying mutations and to assess biodiversity.	1998	AU9925577-A
	New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity.	2000	AU200149251-A
	Assessing microbial biodiversity in an environmental sample comprises contacting the sample with an agent which interferes with, disrupts, removes, or dis-enables a quorum sensing signal in the sample.	2002	US2004038374-A1; AU2003216148-A1; EP1476188-A2
Alemanha	Method for remote sensing of morphologically and structurally complex objects in an object space, particularly for acquisition of surface data for agricultural and forestry terrain for evaluation of biodiversity data.	2001	DE10160179-A1
Holanda	Use of single nucleotide polymorphisms of a ribosomal nucleic acid as a marker for detecting/determining lower taxonomic groups of nematodes, life strategy of a nematode, biodiversity of a soil sample, and/or soil health.	2003	WO2004090164-A2

O depositante com maior representatividade é a empresa Hyseq Inc., com 2 patentes. Uma vez que o número total de patentes no tema é pequeno, todas são apresentadas a seguir:

Tabela dos **depositantes** em Biodiversidade / Bioprospecção:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
HYSEQ INC	New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity.	2000	AU200149251-A;
	Analyzing target nucleic acids, used for diagnostics, forensics, gene mapping, identifying mutations and to assess biodiversity.	1998	AU9925577-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
FRAUNHOFER USA INC; KUHNER C H; MARRS B; ROMESSER J A	Assessing microbial biodiversity in an environmental sample comprises contacting the sample with an agent which interferes with, disrupts, removes, or dis-enables a quorum sensing signal in the sample.	2002	US2004038374-A1; AU2003216148-A1; EP1476188-A2
HALBRITTER K R	Method for remote sensing of morphologically and structurally complex objects in an object space, particularly for acquisition of surface data for agricultural and forestry terrain for evaluation of biodiversity data.	2001	DE10160179-A1
STICHTING TECH WETENSCHAPPEN	Use of single nucleotide polymorphisms of a ribosomal nucleic acid as a marker for detecting/determining lower taxonomic groups of nematodes, life strategy of a nematode, biodiversity of a soil sample, and/or soil health.	2003	WO2004090164-A2
UNIV JOHNS HOPKINS	Environmental monitoring and bioprospecting for microorganisms within a specified environment involves locating a suitably configured in situ microcosm array in the environment and trapping microorganisms in the device.	2004	US2004180334-A1

TERMOS

Quanto aos termos sugeridos (pelos especialistas) sobre este tema, a tabela a seguir mostra o número de patentes focadas localizadas para cada termo, destacando-se fitomedicamentos, com 506.

TEMA	TERMOS	Nº de Patentes focadas
Biodiversidade / Bioprospecção	Bancos de germoplasma	1
	Herbários e demais formas de conservação ex situ	4
	Biodiversidade marinha	2
	Mercado de produtos da floresta	5
	Fitomedicamentos	506

1.1 Bancos de Germoplasma

Para este termo, tem-se apenas uma patente, da Basf alemã, apresentada abaixo:

Tabela do **depositante** em Germoplasma:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
BASF AG	Producing a normalized gene bank from soil microorganisms, useful for selecting genes that encode enzymes, includes use of fluorescent dye to monitor renaturation.	2001	DE10146572-A1; EP1430301-A2

1.2 Herbários e demais formas de conservação ex situ

Este termo apresentou somente 4 patentes focadas, listadas abaixo (todas depositadas no Japão), incluindo número de patente e ano de prioridade.

Tabela dos **depositantes** em Herbários e demais formas de conservação *ex situ:*

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
CHISSO CORP; HIROHARA H	Novel Streptomyces herbaricolor strain or its mutant useful for producing low molecular weight epsilon poly-L-lysine.	2000	JP2002095466-A
KAWABE K; ARIHARA M	Herbarium type greeting card.	1998	JP11277952-A
KOGURE H	Drying method of flower for preparing herbarium, involves applying predetermined pressure and supplying specified calorie of heat around the cylinder fed with flower, followed by natural drying.	1999	JP2001181102-A
NIPPON REMIKO OSHIBANAGAKUIN KK	Tool kit for preparing flower herbarium - includes shelf with ventilation holes and protruding legs accommodated in sealed container embedded with pushing plate and desiccant.	1998	JP11292703-A

1.3 Biodiversidade Marinha

Em “biodiversidade marinha”, tem-se apenas um depositante, Diversa Corp., dos Estados Unidos, com 2 patentes, mostradas a seguir.

Tabela do **depositante** em Biodiversidade Marinha:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DIVERSA CORP	Enriching for target DNA sequences coding for specified activity in a DNA sample by co-encapsulating target DNA with DNA probes and a DNA sequence encoding an enzyme with specified activity and screening for the activity.	2001	US2002127560-A1
	High throughput screening of prokaryotic genomic DNA for novel enzymes - enables identification of enzymes from uncultured micro-organisms derived from environmental samples, useful industrially as catalysts.	1997	EP1009858-A1; JP2002505590-W; US2003215798-A1; AU200235649-A

1.4 Mercado de produtos da floresta

Foram localizadas 5 patentes focadas, com depositantes distintos, e os Estados Unidos se destacam, com 3, conforme a próxima tabela:

Tabela dos **países depositantes** em Mercado de produtos da floresta:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New polynucleotide sequences obtained from various cDNA libraries, useful as hybridization probes, as oligomers for PCR, for chromosome and gene mapping, in the recombinant production of protein, or in generating antisense DNA or RNA.	2001	US2003073623-A1
	Natural product property information processing system for developing custom taxonomic schemes.	2001	US5978804-A
	Discovering and developing new therapeutic agents from natural products involves extraction, fractionation and dereplication steps.	1997	EP1411958-A1; KR2004010776-A; AU2002316452-A1
Alemanha	Method for remote sensing of morphologically and structurally complex objects in an object space, particularly for acquisition of surface data for agricultural and forestry terrain for evaluation of biodiversity data.	2001	DE10160179-A1
África do Sul	Production of bioproducts involves establishing an environment under controlled conditions where microorganisms oxidize slurry containing metal sulfide minerals, and separating and recovering bioproducts from the slurry.	2000	AU200220284-A; EP1346071-A2; US2004038354-A1

Tabela dos **depositantes** em Mercado de produtos da floresta:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
BILLITON LTD SA; BHP BILLITON LTD SA; DEW D W; DU PLESSIS C A	Production of bioproducts involves establishing an environment under controlled conditions where microorganisms oxidize slurry containing metal sulfide minerals, and separating and recovering bioproducts from the slurry.	2000	AU200220284-A; EP1346071-A2; US2004038354-A1
DIETZMAN G R	Natural product property information processing system for developing custom taxonomic schemes.	1997	US5978804-A
DRMANAC R T; LABAT I; STACHE-CRAIN B; DICKSON M C;JONES L W	New polynucleotide sequences obtained from various cDNA libraries, useful as hybridization probes, as oligomers for PCR, for chromosome and gene mapping, in the recombinant production of protein, or in generating antisense DNA or RNA.	2001	US2003073623-A1
HALBRITTER K R	Method for remote sensing of morphologically and structurally complex objects in an object space, particularly for acquisition of surface data for agricultural and forestry terrain for evaluation of biodiversity data.	2001	DE10160179-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
UNIGEN PHARM INC	Discovering and developing new therapeutic agents from natural products involves extraction, fractionation and dereplication steps.	2001	EP1411958-A1; KR2004010776-A; AU2002316452-A1

1.5 Fitomedicamentos

Foram localizadas 506 patentes contradas na China que detém 487.

Com relação aos depositantes, os líderes são individuais, CHEN Y. e LEE, J.H., com 10 e 6 patentes, respectivamente:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
CHEN Y.	Chinese herbal medicinal liquor for curing rheumatoid arthritis.	1999	CN1262952-A
	Chinese herbal medicinal wine - useful for curing leukaemia.	1998	CN1202374-A
	Chinese herbal medicine additive for fodder.	1994	CN1097938-A
	Chinese herbal medicine for toothache.	1998	CN1256133-A
	Chinese herbal medicine wine for curing rheumatism and toxemia - useful for promoting blood circulation, dredging the meridian passage, eliminating swelling, relieving pain and removing toxic material.	1997	CN1207908-A
	Compsn. Comprising e.g. termite and Chinese herbal medicine.	1994	CN1098628-A
	Compsn. contg. Chinese herbal medicines and mineral substance.	1993	CN1093575-A
	Disinfectant using orchid plant and its prepn. - comprises using sword-leaved Cymbidium and other chinese herbal medicines.	1992	CN1073832-A
	Preparation of Chinese herbal medicine for constricting the vagina.	1995	CN1124648-A
	Recipe of gastropathy treating Chinese herbal medicine.	2001	CN1403104-A
LEE J.H.	Cosmetic composition containing fermented mixture of herbal medicines and soybean.	2003	KR2003020908-A
	Ginseng chicken broth mixed with herbal medicine.	2000	KR2001090328-A
	Method for growing bean sprout using vinegar and herbal medicine.	2000	KR2000063225-A
	Method for growing bean sprout using vinegar and herbal medicines.	2000	KR2000063248-A
	Method for growing bean sprout using vinegar, herbal medicines, black beans, and a jar.	2000	KR2000063227-A
	Method for growing green bean sprout using vinegar and herbal medicines.	2000	KR2000063228-A

2 Tema: Bioeconomia

O tema “bioeconomia” apresenta 27 patentes focadas. Com relação aos países, apenas dois são representativos, Japão e Estados Unidos, cujas patentes são apresentadas a seguir.

Tabela dos top **países depositantes** em Bioeconomia:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	An economic process for production of cadaverine with a recombinant Escherichia coli with integrated lysine decarboxylase gene (cadA).	2001	JP2002223771-A
	Microorganism of the genus Citrobacter for economically producing shikimic acid in high concentrations.	1998	JP2000078967-A; EP1092766-A1
	Microorganisms comprising a gene encoding for a D-lactic acid dehydrogenase enzyme are useful for improved economic production of D-lactic acid.	2000	JP2002136293-A
	New DNA encoding a peptide synthesis enzyme of microbial origin for economical production of peptides for use in drug compositions and foodstuffs.	2003	AU2003248119-A1; US2004204577-A1
	Temperature-sensitive dtsR genes encoding surfactant-resistant, temperature-sensitive and biotin-inhibitory proteins - useful for transforming mutant Corynebacteria with surfactant resistance, in stable and economic fermentation production of L-glutamic a	1997	AU9879374-A; EP1002866-A1; BR9810990-A; CN1265702-A; JP11508433-X; US2003077765-A1
EUA	New transcription promoter and terminator sequences from Pichia methanolica, useful within DNA constructs for producing proteins of economic importance, e.g. industrial enzymes, proteins for research or pharmaceutical proteins.	1999	AU200071038-A; EP1210412-A1; JP2003509024-W
	Novel isolated DNA molecule useful within DNA constructs for producing polypeptides of economical importance including industrial enzymes and pharmaceutical proteins, in cultured Pichia methanolica cells.	2001	US2002086366-A1

Uma vez que não há grande concentração de depositantes, são apresentados os três com 2 ou mais patentes (Toray Ind. Inc., Ajinomoto e Zymogenetics):

Tabela dos top **depositantes** em Bioeconomia:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
TORAY IND INC	An economic process for production of cadaverine with a recombinant Escherichia coli with integrated lysine decarboxylase gene (cadA).	2001	JP2002223771-A
	Microorganisms comprising a gene encoding for a D-lactic acid dehydrogenase enzyme are useful for improved economic production of D-lactic acid.	1998	JP2002136293-A
	Microorganism of the genus Citrobacter for economically producing shikimic acid in high concentrations.	2000	JP2000078967-A; EP1092766-A1
AJINOMOTO CO INC	New DNA encoding a peptide synthesis enzyme of microbial origin for economical production of peptides for use in drug compositions and foodstuffs.	2003	AU2003248119-A1; US2004204577-A1
	Temperature-sensitive dtsR genes encoding surfactant-resistant, temperature-sensitive and biotin-inhibitory proteins - useful for transforming mutant Corynebacteria with surfactant resistance, in stable and economic fermentation production of L-glutamic acid and L-lysine.	1997	AU9879374-A; EP1002866-A1; BR9810990-A; CN1265702-A; JP11508433-X; US2003077765-A1
ZYMOGENETICS INC	New transcription promoter and terminator sequences from Pichia methanolica, useful within DNA constructs for producing proteins of economic importance, e.g. industrial enzymes, proteins for research or pharmaceutical proteins.	2001	EP1210412-A; AU200071038-A; EP1210412-A1; JP2003509024-W
	Novel isolated DNA molecule useful within DNA constructs for producing polypeptides of economical importance including industrial enzymes and pharmaceutical proteins, in cultured Pichia methanolica cells.	1999	US2002086366-A1; US6440720-B1

Salienta-se que para os termos inovação tecnológica e mercado nacional e internacional não foi encontrado nenhum depósito. Os demais termos deste tema Bioeconomia não se aplicam a patentes.

3 Tema: Bioindústria

Utilizando somente a palavra “bioindustry”, foi localizada uma patente relativa ao próprio tema, depositada no Escritório Mundial de Patentes.

Tabela do **depositante** em Bioindústria :

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
TAIYO KAGAKU	Poultry productivity improver containing a polymannnose, a polyphenol and defatted rice bran.	1998	AU9897633-A; EP1129628-A1; JP2000580467-X; US6706291-B1

Considerando que o termo Bioindústria tem classificação que permite recuperar uma gama maior de patentes correlacionadas ao tema, verificou-se que no ano de 2004 há 1192 patentes, sendo que os Estados Unidos se destacam com 538.

Tabela dos top **países depositantes** em Bioindustria

País Depositante	Nº de Patentes
EUA	538
Japão	390
Alemanha	53
Rússia	44
China	40
Dinamarca	29
França	27
Grã-Bretanha	23
Escritório Europeu	22
Coréia	22

Cabe ressaltar que, em função do elevado número de patentes por país, não foi feita a tabela com País, Título, Ano de Prioridade e Nº da Patente.

Considerando os depositantes, aqueles com depósito superior a 12 patentes (9) são apresentados na tabela a seguir (usando-se o critério de 10% do maior depositante). Destes, a empresa *PIONEER* fica em destaque, pois, além de deter 112 depósitos, a grande maioria dos mesmos não apresenta parceria.

Tabela dos top **depositantes** em Bioindústria considerando a CIP:

Depositante ou (Corporação)	Nº de Patentes
PIONEER HI-BRED INT INC	112
STINE SEED FARM INC	53
NOVOZYMES AS	41
ASGROW SEED CO LLC	38
MONSANTO	33
AJINOMOTO	30
EBY W H	30
DOKURITSU GYOSEI HOJIN NOGYO SEIBUTSU SH	14
NAGATA JOZO KIKAI KK	13

As patentes relativas a estes 9 depositantes são mostradas a seguir, iniciando-se pela Pioneer:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
PIONEER HI-BRED INT INC	Soybean seed and representative seed of soybean variety both of same specified designation for human food, livestock feed and as raw material in industry, have been deposited under specified accession number.	2000	US6613966-B1
	High yielding hybrid maize 33H67 useful as a food and as a raw material in industry.	1998	US5936147-A
	Hybrid maize line 3476 suitable for consumption by humans and animals and for use in the dry- and wet-milling industries.	1996	US5942669-A
	Hybrid maize plant and seed designated 39D81 useful as human food and in various industrial applications.	1999	US6344603-B1
	Hybrid soybean seed and plant useful for human food, livestock feed and as a raw material in industry, are produced by crossing novel soybean variety 93B53 with different inbred parent soybean plant.	1998	US6335197-B1
	In-bred, yellow dent corn line PHK46 - is stable and uniform within the limits of environmental influence for various traits, useful as human or animal feed and as raw material for industry.	1995	US5543575-A
	Inbred maize line PH224 for producing hybrid maize seeds and plants, useful as human food, livestock feed and as a raw material in industry.	1999	US6096953-A
	Inbred maize line PHOB3, and transgenic variants of it, suitable for cultivation for use in industry and for consumption by animals and humans.	1999	US6333451-B1
	Inbred soybean variety 93B46, and genetic variants, useful as food and as raw materials in industry.	2000	US6323402-B1
	Maize inbred line PHDP0 - for production of F1 hybrids, with high yields and high test weights.	1996	US5639946-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
PIONEER HI-BRED INT INC	New high-yielding maize hybrid designated 34V98, used as a source of food, animal feed, and industrial raw materials, and for producing hybrid maize plants containing genes transferred by backcrossing.	1999	US6188000-B1
	New hybrid corn plant 3489 and seed - produces high yields, is widely adapted and is stable in all environments, for use as human food, animal feed and in industry.	1994	US5557035-A
	New hybrid maize (Zea mays) 33A72 (ATCC PTA-5457) plants, seeds and plant parts useful as human food, livestock feed, and as raw material in industries for producing e.g., ethanol, flour or starch.	2001	US6797867-B1
	New hybrid maize (Zea mays) 39A26 (ATCC PTA-3352), useful as human food, livestock feed or as raw material in industry.	1999	US6297432-B1
	New hybrid maize (Zea mays) 39R34 (ATCC PTA-5465) plants, seeds and plant parts useful as human food, livestock feed, and as raw material in industries for producing e.g., ethanol, flour or starch.	2001	US6797868-B1
	New hybrid maize ATCC PTA-1705, useful for human or animal nutrition and industrial raw material, with excellent yield potential, and its hybrids.	1999	US6326530-B1
	New hybrid maize line 36K67 useful for producing high yielding and agronomically sound hybrid maize plants possessing superior traits (e.g. increased disease resistance) or as human food, livestock feed and as raw material in industry.	2004	US2004181836-A1
	New hybrid maize line 39F27 useful for producing high yielding and agronomically sound hybrid maize plants possessing superior traits (e.g. increased disease resistance) or as human food, livestock feed and as raw material in industry.	2004	US2004181835-A1
	New hybrid maize line 39R62 useful for producing high yielding and agronomically sound hybrid maize plants possessing superior traits or for human food, livestock feed and as a raw material in industry.	2001	US6750384-B1
	New hybrid maize plant (32J55) is useful in industry and as a food source for humans and animals.	1997	US5929311-A
	New hybrid maize plant (36K50) is useful in industry and as a food source for humans and animals.	1998	US5962771-A
	New hybrid maize plant (38D66) is useful in industry and as a food source for humans and animals.	1998	US5962772-A
	New hybrid maize plant (39K72) is useful in industry and as a food source for humans and animals.	1999	US6037530-A
	New hybrid maize plant and seed 32G94 having e.g. higher grain yield, gray leaf spot tolerance or superior resistance to stalk lodging, useful as human food, livestock feed, and as raw materials in paper, textile and mining industries.	1999	US6111173-A
PIONEER HI-BRED INT INC	New hybrid maize plant and seed 33F18 having e.g. superior stalk lodging resistance, leaf blight resistance, or outstanding grain yield, useful as human food, livestock feed, and as raw materials in paper, textile or mining industries.	1999	US6087567-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New hybrid maize plant and seed 34F40 having e.g. superior root lodging or brittle snap resistance, or outstanding grain yield, useful as human food, livestock feed, and as raw materials in paper, textile or mining industries.	1998	US6087566-A
	New hybrid maize plant and seed 34P93 having e.g. better seedling vigor, excellent kernel density, or outstanding grain yield, useful as human food, livestock feed, and as raw materials in paper, textile or mining industries.	1998	US6087564-A
	New hybrid maize plants, 3951, ATCC 17500 - having high yield at maturity, early flowering, good grain appearance and disease resistance, useful for human and livestock food and raw material for industry.	1995	US5574209-A
	New hybrid maize seed designated 39K40, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6809242-B1
	New hybrid maize seed for growing into maize plant for use as human food, livestock feed and raw material in industry.	2000	US6753464-B1
	New hybrid maize seed, 35B26 useful for human food, livestock feed and as raw material in industry and in maize plant breeding program.	1998	US6077998-A
	New hybrid maize seed, designated 32Y65 (ATCC-103900) for producing maize plants which are useful as human food, livestock feed, and as raw material in industries for producing, e.g. ethanol and flour.	1998	US6087565-A
	New hybrid maize, 33T17 (ATCC PTA-4274), useful as human food, livestock feed, and as raw material in industry, e.g. in the producing corn starch, corn syrups, dextrose for food use, corn oil or ethanol.	2000	US6734347-B1
	New hybrid maize, PH48V (ATCC PTA-4263), useful as human food, livestock feed, and as raw material in industry, e.g. in the production of corn starch, corn syrups, dextrose for food use, corn oil or ethanol.	2000	US6734348-B1
	New inbred corn (Zea mays) 35H53 (ATCC accession number PTA-3185), useful for developing corn hybrid seeds or plants with superior characteristics, as human food source, livestock feed, or as raw material in the industry.	2000	US6297433-B1
	New inbred maize line PHOWE, for producing hybrid maize seeds and plants useful as human food, livestock feed and raw material in industry.	1998	US6077997-A
	New inbred maize PH0WD, useful as food or industrial raw material, and its hybrids with high yield, seedling vigor and grain quality.	1999	US6133513-A
	New inbred maize PH1B8, useful as food and industrial raw material, also its hybrids, with e.g. excellent seedling vigor and brittle stalk resistance.	1999	US6130370-A
PIONEER HI-BRED INT INC	New inbred maize PH3GK, useful as food or industrial raw material, and its hybrids with high yield and good resistance to some fungi.	1999	US6133514-A
	New maize hybrid 38F48, useful e.g. for animal or human feeds and as industrial raw material, provides high yields and high oil content.	1999	US6121524-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New maize hybrid X1128BW and its hybrids, useful as food and industrial raw material, with good early growth and short stature.	2000	US6359201-B1
	New maize inbred line PH12C, useful for animal or human feeds and as industrial raw material also provides hybrids with high yield.	1998	US6121520-A
	New plant glutamine:fructose-6-phosphate amidotransferase protein for producing transgenic plants containing cationic starch useful in the textile and paper industries.	1998	AU9960183-A; EP1108040-A2; US2003177534-A1
	New polynucleotide encoding serine O-acetyltransferase in plants and seeds, useful in livestock industry.	2002	US2003008368-A1; CA2382363-A1
	New seed and plant of hybrid maize variety 33R77, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2001	US6784347-B1
	New seed and plant of hybrid maize variety 38T27, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2000	US6806407-B1
	New seed and plant of hybrid maize variety designated 34N16, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2001	US6743970-B1
	New seed and plant of maize inbred line PH5TG, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2001	US6806408-B1
	New seed and plant of maize inbred line PH8CW, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2002	US6784349-B1
	New seed and plant of maize inbred line PH8PG, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2002	US6784350-B1
	New seed of hybrid maize variety 33A84, useful for producing maize for human food, livestock feed (e.g. beef cattle, dairy cattle, hogs, and poultry) or as raw material in industry.	2004	US2004199965-A1
	New seed of hybrid maize variety designated 32H58, useful for producing hybrid maize plant of superior agronomic performance and as human food, livestock feed, or as raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6747193-B1
	New seed of hybrid maize variety designated 33K39, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2004	US2004180436-A1
PIONEER HI-BRED INT INC	New seed of hybrid maize variety designated 33N56, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2004	US2004187179-A1
	New seed of hybrid maize variety designated 34B97, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6781041-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New seed of hybrid maize variety designated 35Y54, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6756529-B1
	New seed of hybrid maize variety designated 36N70, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6809241-B1
	New seed of hybrid maize variety designated 37Y15, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6759577-B1
	New seed of hybrid maize variety designated X1139Y, useful for human food, livestock feed, and as a raw material in industry (e.g., maize starch in wet-milling industry).	2001	US6800796-B1
	New seed of maize designated PH8W4 useful for producing hybrid maize used as human food, livestock feed and as raw material in industry.	2000	US6600095-B1
	New seed of maize inbred line designated PH3AV, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2000	US6815592-B1
	New seed of maize inbred line designated PH3RC, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2002	US6747196-B1
	New seed of maize inbred line designated PH5FW, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2002	US6781042-B1
	New seed of maize inbred line designated PH6KW, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2001	US6756528-B1
	New seed of maize inbred line designated PH6ME, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2001	US6759578-B1
	New seed of maize inbred line designated PH75K, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2002	US6781043-B1
	New seed of maize inbred line designated PH77V deposited under ATCC Accession No. PTA-4534, useful as a human food, livestock feed (for beef, cattle, dairy cattle, hogs or poultry), or as raw material in industry.	2001	US6740795-B1
PIONEER HI-BRED INT INC	New seed of maize inbred line designated PH7CP, useful as human food, livestock feed for beef cattle, dairy cattle, hogs and poultry, and as raw material in industry.	2001	US6723902-B1
	New seed of maize inbred line designated PH7JB deposited under ATCC Accession No. PTA-4531, useful as a human food, livestock feed (for beef, cattle, dairy cattle, hogs or poultry), or as raw material in industry.	2001	US6740796-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New seed of maize inbred line designated PH87H, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2002	US6759580-B1
	New seed of maize inbred line designated PH951, useful for producing first generation F1 maize hybrids with superior characteristics (e.g., herbicide resistance) and as human food, livestock feed or as raw material in industry.	2002	US6756530-B1
	New seed of maize inbred line PH3EV, useful e.g. for animal or human feeds and as industrial raw material, provides hybrids with high yield.	1999	US6121523-A
	New seed of maize inbred line PH55C, useful e.g. for animal or human feeds and as industrial raw material, provides hybrids with high yield.	1999	US6121522-A
	New seed of maize inbred line PH6WG, useful as human food, livestock feed for beef cattle, dairy cattle, hogs and poultry, and as raw material in industry.	2001	US6723903-B1
	New seed of maize inbred line PH70R (ATCC PTA-4680), useful as a human food, livestock feed (for beef, cattle, dairy cattle, hogs or poultry), or as raw material in industry.	2002	US6740798-B1
	New seed of maize synthetic population for human food, livestock feed and as raw material in industry.	1999	US6320106-B1
	New seed of soybean variety 90B74 for producing soybean plant for use as human food, livestock feed or raw material in industry, e.g. cooking oil, soybean flour, paint ingredient.	2002	US6812384-B1
	New soyabean variety 92B23, useful as foodstuff and industrial raw material, also for developing hybrids, has excellent yield potential and high resistance to Phythophora.	1998	US6121514-A
	New Soybean cultivar 93B35 useful for producing useful in plant breeding programs and as a source of human food, animal feed and industrial raw materials.	1999	US6153816-A
	New soybean cultivar designated 92B35, useful as human food, livestock feed and as a raw material in industry.	1999	US6166296-A
	New soybean seed designated 92B62, representative seed of the soybean variety 92B62, useful in human food, livestock feed, and as a raw material in industry.	2000	US6346657-B1
	New soybean seed variety 93B86 or representative seed of the soybean variety 93B86 used as, e.g. human food, livestock feed, or as raw material in industry.	2000	US6610910-B1
	New soybean variety 92B37, and transgenic variants, which may be cultivated for consumption by animals and humans, or for use as a raw material in industry.	2000	US6323399-B1
PIONEER HI-BRED INT INC	New soybean variety 93B26 seed for producing or developing high yielding soybean and agronomically sound soybean varieties, or as a source of human food, livestock feed, and raw industrial materials.	2000	US6342659-B1
	New soybean variety designated 94B24, useful in food production and as an industrial raw material.	2000	US6613967-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New sunflower (Helianthus annuus L.) inbred line D116A (ATCC PTA-2424), useful for developing new inbred lines and hybrids with high yields or superior agronomic performance, or as human food, livestock feed or raw material in industry.	1999	US6229079-B1
	New sunflower (Helianthus annuus L.) inbred line PHA305 (ATCC PTA-2326), useful for developing new inbred lines and hybrids with high yields or superior agronomic performance, or as human food, livestock feed or raw material in industry.	1999	US6229078-B1
	Novel inbred maize line 31A12 for producing hybrid maize seeds and plants useful as human food, livestock feed and raw material in industry.	1998	US6118052-A
	Novel inbred maize line 37H24 useful as source material for maize plant breeding programs and as human food, livestock feed and raw material in industry.	1999	US6225537-B1
	Novel inbred maize line PH21T for producing hybrid maize seeds and plants useful as human food, livestock feed and raw material in industry.	1998	US6091007-A
	Novel inbred maize line PH2V7 for producing hybrid maize seeds and plants useful as human food, livestock feed and raw materials in industry.	1999	US6124529-A
	Novel seeds of soybean variety for use as human food such as protein meal, livestock feed, as a raw material in industry and for producing oil.	1997	US6072104-A
	Seed and plants of inbred maize line PH5D6 and its hybrids, useful as food and industrial raw material, has e.g. good resistance to several fungal pathogens.	2000	US6316704-B1
	Seed and plants of maize inbred line PH3DT and its hybrids, useful as food and industrial raw material, has e.g. good resistance to lodging and brittlestalk.	2000	US6316703-B1
	Seed and plants of maize inbred line PH4PV and its hybrids, useful as food and industrial raw material, comprises good resistance to lodging and brittlestalk.	2000	US6316702-B1
	Seed of new maize inbred line PH2E4 useful for producing F1 hybrids in plant breeding programs and as a source of human food, animal feeds and industrial raw materials.	1999	US6147284-A
	Seed of new soyabean cultivar 95B53 useful for producing F1 hybrids for plant breeding programs and as a source of human food, animal feeds and industrial raw materials.	1999	US6147283-A
	Seeds of inbred maize line PHKW3, a maize plant, pollen and ovule of the plant, etc. - useful for producing new F1 hybrids that yield well, are used in human or animal feeding and as industrial raw material.	1995	US5534661-A
PIONEER HI-BRED INT INC	Seeds of novel sunflower inbred line, PHA232 useful for producing hybrid sunflower lines having improved resistance to Sclerotinia and as human food, livestock feed and raw material in industry.	1997	US6069304-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Soybean seed designated 90A07 for soybean plant for use in human food, livestock feed, and as raw material in industry, has a representative seed deposited under specified American Type Culture Collection Accession number.	2000	US6320105-B1
	Soybean seed designated 90B43 having American type culture collection accession number PTA-109, is useful for human and animal consumption or as a raw material in industry.	1998	US6028252-A
	Soybean seed designated 91B12 and representative seed of this soybean variety, useful for human food, livestock feed and as raw material in industry.	2000	US6583343-B1
	Soybean seed of variety 91B03, useful for human food, livestock feed, as a raw material in industry, and as breeding material for development of other soybean varieties.	2002	US6815584-B1
	Soybean seed of variety 94B42, useful for human food, livestock feed, as a raw material in industry and as breeding material for development of other soybean varieties.	2002	US6815583-B1
	Soybean seed variety for human food, livestock feed, and as a raw material in industry, comprises designation of 91B92.	2000	US6586659-B1
	Soybean variety 90B73, useful in food production and as raw material in industry.	2000	US6316700-B1
	Soybean variety 93B08, and transgenic variants, which may be cultivated for consumption by animals and humans, or for use as a raw material in industry.	2000	US6323401-B1
	Soybean variety 97B62, and transgenic variants, which may be cultivated for consumption by animals and humans, or for use as a raw material in industry.	2000	US6323400-B1

A *STINE SEED,* com 53 patentes, apresenta parcerias na maioria dos depósitos, sendo que em várias patentes a empresa Monsanto se faz presente, conforme pode ser visualizado na próxima tabela:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
STINE SEED FARM INC	Soybean cultivar 03422410 and transgenic variants of it which may be cultivated for consumption a food or for use as a raw material in industry.	2000	US6265642-B1
STINE SEED FARM INC	Soybean line 04622810, which may be cultivated for consumption as food or for use as a raw material in industry, with enhanced herbicide, insect, bacterial, viral or fungal resistance, male sterility and/or improved nutritional quality.	2000	US6265644-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Soybean line 73845641, and transgenic variants, suitable for cultivation for consumption or for use as a raw material in industry.	2000	US6265641-B1
STINE SEED FARM INC; STINE H H	New seed of a corn inbred line, designated 1445-008-1, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2002133853-A1
STINE SEED FARM INC; ASGROW SEED CO LLC	New seed of a soybean variety, designated 010003, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2003009792-A1
	New seed of a soybean variety, designated 0120279, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2003009791-A1
	New seed of a soybean variety, designated 240200, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2002188969-A1
	New seed of soybean variety 709048, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2003009790-A1
	New seed of soybean variety designated 924001, useful as human food, live stock feed and as raw material for industry.	2002	US2004055046-A1
	New seed of the soybean cultivar 921031, useful for producing first generation soybean hybrid seeds and plants with superior characteristics, for human food, livestock feed, and as raw material in industry.	2001	US6448480-B1
STINE SEED FARM INC; ASGROW SEED CO LLC	New soybean cultivar 0120286, useful for producing soybean hybrids, or as human food, livestock feed, or as raw material in industry.	2001	US2002184666-A1
	New soybean variety 919011, useful for human food, livestock feed or as a raw material in industry.	2001	US2002184667-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel seed of a soybean variety 0120283, useful as human food, livestock feed and as raw material in industry.	2002	US2003135893-A1
	Novel seed of a soybean variety 0332131, useful as human food, livestock feed and as raw material in industry.	2002	US2003204883-A1
	New soybean seed of variety designated 0491726, useful as human food, livestock feed and as a raw material for industry.	2003	US2004205849-A1
	Novel seed of soybean variety designated 0120282, useful as human food, live stock feed and as raw material for industry.	2002	US2003135892-A1
	Novel seed of soybean variety designated 0332147, useful as human food, live stock feed and as raw material for industry.	2002	US2003208804-A1
	Novel seed of soybean variety designated 924861, useful as human food, live stock feed and as raw material for industry.	2002	US2003213025-A1
	Novel seed of soybean variety designated S010363, useful as human food, live stock feed and as raw material for industry.	2002	US2003213020-A1
	Novel seed of soybean variety SO22214, useful as human food, livestock feed and as raw material in industry.	2003	US2004205854-A1
STINE SEED FARM INC; ASGROW SEED CO LLC	Novel soybean seed 0332122 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003204880-A1
	Novel soybean seed 92422749 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2004045058-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Soybean cultivar 010014 with resistance to Roundup (RTM) herbicides, useful as a foodstuff and for use as a raw material in industry.	2001	US6433258-B1
	Novel seed of a soybean variety S010344, useful as human food, livestock feed and as raw material in industry.	2002	US2004003438-A1
STINE SEED FARM INC; MONSANTO TECHNOLOGY LLC	New seed of soybean variety 0491737, useful for producing herbicide resistant, insect resistant, or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004221342-A1
	New seed of soybean variety 94137321, useful as human food, livestock feed and as raw material in industry.	2003	US2004205862-A1
	New seed of soybean variety 99271316, useful for producing herbicide resistant, insect resistant or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004221344-A1
	New seed of soybean variety designated 92440927, useful for producing hybrid soybean seed and plant, useful as human food, livestock feed, and as raw material in industry, as source of protein for poultry, swine and cattle.	2003	US2004205857-A1
	New seed of soybean variety designated 94143901, useful as human food, livestock feed and as raw material for industry.	2003	US2004205859-A1
	New seed of soybean variety SO22211, useful as human food, livestock feed and as raw material in industry.	2003	US2004221341-A1
STINE SEED FARM INC; MONSANTO TECHNOLOGY LLC	New seed of soybean variety SO22212, useful as human food, livestock feed and as raw material in industry.	2003	US2004221343-A1
	New seed of soybean variety SO22213, useful as human food, livestock feed and as raw material in industry.	2003	US2004221339-A1
	Novel seed of soybean variety 0487686, useful for producing herbicide resistant, insect resistant, or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004205856-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel seed of soybean variety 0491714, useful as human food, livestock feed and as raw material in industry.	2003	US2004168219-A1
EBY W H; HOLMES B A; STINE SEED FARM INC; ASGROW SEED CO LLC	New soybean (Glycine max) cultivar 940021 (ATCC accession number PTA-1162) useful as a source of human food and livestock feed, as a raw material in industry, and sources of vegetable oil and protein meal.	2001	US2003005492-A1
	New soybean seed variety 0120300 useful for breeding and transforming soybeans, for the production of human food, livestock feed, and as a raw material in industry.	2001	US2002184671-A1
	New soybean (Glycine max) cultivar 940021 (ATCC accession number PTA-1162) useful as a source of human food and livestock feed, as a raw material in industry, and sources of vegetable oil and protein meal.	2001	US2003005492-A1
EBY W H; MATSON K W; BYRUM J R; STINE SEED FARM INC; ASGROW SEED CO LLC	Novel soybean seed S010354 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003213023-A1
EBY W H; MATSON K W; BYRUM J R; STINE SEED FARM INC; MONSANTO TECHNOLOGY LLC	New soybean variety designated 0491728, useful as human food, livestock feed, and as raw material in industry.	2003	US2004205851-A1
EBY W H; STINE SEED FARM INC; ASGROW SEED CO	Novel seed of a soybean variety 0332134, useful as human food, livestock feed and as raw material in industry.	2002	US2003200572-A1
	New soybean cultivar 82147657, useful for producing soybean hybrids, or as human food, livestock feed, or as raw material in industry.	2001	US2003009789-A1
EBY W H; STINE SEED FARM INC; ASGROW SEED CO	Novel seed of a soybean variety 0332133, useful as human food, livestock feed and as raw material in industry.	2002	US2003200573-A1
STINE SEED FARM INC; EBY W H; ASGROW SEED CO	Novel seed of a soybean variety 0332139, useful as human food, livestock feed and as raw material in industry.	2002	US2003200571-A1
	Novel seed of a soybean variety 0332142, useful as human food, livestock feed and as raw material in industry.	2002	US2003200574-A1
	Novel seed of a soybean variety S010353, useful as human food, livestock feed and as raw material in industry.	2002	US2003204876-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
STINE SEED FARM INC; ASGROW SEED CO LLC; EBY W H; NICKELL A D	New 925011 soybean variety, useful for human food, livestock feed or as raw material in industry.	2001	US2002174456-A1
STINE SEED FARM INC; EBY W H; HICKS J; BYRUM J R; ASGROW SEED CO LLC	New seed of a soybean variety 0120284, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2002184668-A1

Já a NOVO NORDISK / NOVOZYMES apresenta 41 patentes:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
NOVO NORDISK AS	Industrial fermentation method using Saccharomyces kluyveri which is only effected mildly by glucose surplus and provides a more efficient method of producing a heterologous product such as insulin.	1999	AU9955040-A; US6190883-B1; JP2002524082-W; EP1109922-B1; DE69917294-E
	Isolated alpha-amylase - is alkali stable and is useful in number of industrial applications.	1996	AU9743764-A; EP939801-A1; CN1231693-A; US6165770-A
	Prodn. of metabolites, in Bacillus cells mutated to prevent sporulation - used for prodn. of industrial or medical enzymes.	1995	AU9663538-A; EP837925-A1; JP11509096-W; CN1190434-A
NOVO NORDISK AS	Isolated endo-beta-1,4-glucanase - used for e.g. treating cellulosic fibres or polymers, feed production or in oil industry for enhancing oil recovery.	1997	AU9856521-A; EP972016-A1; CN1246149-A; JP2001504352-W;
	New chemically modified cellulase enzymes - used e.g. in the pulp and paper industry, in the textile industry and for animal feed and human food.	1994	AU9519468-A
	New DNA sequence encoding xylose isomerase useful in industrial processes.	1997	US5935837-A
	New fungus lacking functional AreA and extracellular protease gene(s) - for high yield expression of industrial or therapeutic proteins, also new protease(s) from Aspergillus oryzae.	1995	AU9710928-A; EP866872-A1; CN1204370-A; US6013452-A; JP2000501620-W
	Nucleic acid encoding Fervidobacterium sp. Ven 5 thermostable pullulanase, useful for industrial saccharification processes.	1998	AU9917791-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Production of heterologous polypeptide on industrial scale in eukaryotic cells, using (cyclic)-nucleotide-manipulating agent.	1998	AU9916635-A
NOVO NORDISK AS NOVO NORDISK BIOTECH INC ASAHI CHEM IND CO LTD; JAPAN TOBACCO INC; NOVOZYMES BIOTECH INC	New isolated aminopeptidase polypeptides used in, e.g. food industry.	1998	EP1042457-A1; BR9813608-A; CN1282369-A; KR2001033182-A; NZ505066-A; US2002177210-A1; JP2003525573-W
NOVO NORDISK AS; NOVOZYMES AS	New rhamnogalacturonan hydrolase enzymes used in, e.g. the textile industry.	1998	AU9935951-A; EP1075510-A1; US2003026810-A1
	Fungal galactanase and related DNA - useful in animal feed industry and fruit juice depectinisation.	1996	AU9720909-A; EP885296-A1; CN1212011-A; JP2000505303-W; US6485954-B1
	New pectate lyase enzyme useful in industrial processing, e.g. in textile, detergent, and cellulose fiber.	1999	AU200032730-A; US6399351-B1
	Novel endo-beta-1,4-glucanase useful in various industrial applications including degradation of cellulose-containing biomass, detergent, paper, pulp and textile industries.	1999	AU200047449-A; EP1185631-A1; BR200010998-A; KR2002012249-A; CN1353751-A; JP2003501021-W; MX2001012179-A1
NOVO NORDISK AS; NOVOZYMES AS	Preparation of a dry granulated enzyme preparation having an improved control of its size and/or size distribution, useful in the starch-processing, food/feed and detergent industries.	1999	AU200058054-A; EP1198562-A1; CN1367825-A; JP2003504050-W
	Process for degradation or modification of fibers or fabric in laundering and textile processing industries, containing plant material, involves treating fibers or fabric with polymethyl glacturonase enzyme.	1999	AU200034183-A; US6296671-B1; BR200009184-A; EP1163328-A1; KR2001109318-A; CN1344316-A; JP2003524708-W; MX2001009492-A1
	New subtilase enzyme variants - having modifications in amino acid positions 134 and/or 137, used in detergents or the leather or wool industries.	1997	AU9890617-A; EP1012251-A1; BR9811412-A; CN1272137-A; KR2001023468-A; MX2000001889-A1; JP2001514846-W; US6558938-B1
	New subtilase enzyme variants - having modifications in amino acid positions 95, 97 and/or 98, used in detergents or the leather or wool industries.	1997	AU9890618-A; EP1007646-A1; BR9811396-A; CN1272881-A; KR2001023448-A; MX2000001890-A1; JP2001514847-W

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Termamyl-like alpha-amylase variants with improved properties - e.g. increased stability at low pH and low calcium, useful as detergent additives and in industrial starch processing e.g. liquefaction.	1996	AU9726928-A; EP904360-A1; CN1217020-A; BR9708887-A; JP2000508914-W; US2004048351-A1
NOVO NORDISK BIOTECH INC	New DNA constructs - contg. Scytalidium laccase encoding sequence, useful in industrial applications for oxidn. of phenolics.	1994	AU9526566-A; US5843745-A; EP763115-B1; DE69518751-E; ES2153037-T3
NOVOZYMES AS	A particle used in the food, baking or detergent industries comprises an active dispersed in a visco-elastic liquid matrix with specific properties.	2000	AU200191646-A; US2002110620-A1; EP1325102-A1; US6617026-B2; CN1468299-A; JP2004510876-W
	Active-containing granule as compositions for industrial applications, comprises lubricant which is liquid having specific viscosity, lubricated granules having preset relative friction coefficient and/or mineral oil.	2000	AU200185723-A; US2002119201-A1; EP1317533-A1; CN1452657-A; JP2004508040-W
	Isolating polynucleotide encoding polypeptide having secretion signal sequence and of industrial interest, by rolling circle amplification and introduction of library into host cell, and isolating polynucleotide from selected cell.	2002	AU2003247268-A1
NOVOZYMES AS	New enzyme exhibiting endo-beta-1,4-glucanase activity, useful in detergent compositions, oil industry textile finishing processes, biomass degradation, laundry, and stone washing.	2001	EP1399543-A2; AU2002311012-A1; MX2003011194-A1
	New transformed bacterial host cells that expresses an enzyme endogenous to a strain of Thermotoga maritima, useful for producing pectate lyase, which is for industrial use, e.g. for treatment of textiles (e.g. scouring of textile).	2000	AU200148278-A; EP1276854-A2; US2003087415-A1
	New xyloglucanase enzyme belonging to family 74 of glycosyl hydrolases, and endogenous to a bacterium, useful in the textile industry for improving properties of cellulosic fibers, yarn or fabric.	2001	AU2002249102-A1
	New xyloglucanase enzyme belonging to glycosyl hydrolases family, useful for detergent compositions, and textile or cellulose fiber processing industries.	2000	AU200133623-A; EP1259594-A1; US2003032162-A1
	Novel variant of parent glycoside hydrolase family 53 galactanase, useful in dairy industry, to prepare galacto-oligosaccharide and/or for hydrolysis of lactose.	2003	AU2003303215-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel xyloglucanase enzyme for use in textile, detergent and cellulose fiber processing industries comprises family 5 of glycosyl hydrolases and is derived from strains of Paenibacillus.	2000	AU200137247-A; EP1261698-A1; US2003022807-A1
	Producing an enzyme on industrial scale by fermenting a microbial strain producing the enzyme in a fermentation medium with partially pre-hydrolyzed complex N-source sterilized from any other source containing carbohydrates.	2002	US2004033567-A1; AU2003236810-A1
	Screening for microbial-produced products by sequential use of different high throughput assays combines their advantages and is useful to select clones producing industrial enzymes or pharmaceuticals.	1999	AU200076461-A
NOVOZYMES AS; RASMUSSEN M D	Increasing copy number of an amplification unit in a host cell chromosome, for industrial production of polypeptides, comprises introducing an expression cassette having a gene of interest and a gene non-functional in the chromosome.	2000	AU200162063-A; US2003044940-A1; EP1290207-A1
NOVOZYMES AS; ROGGEN E L	Lipolytic enzyme for industrial purposes, such as a detergent additive, comprises amino acid substitutions corresponding to two hundred sixty nine amino acid sequence.	2001	EP1280919-A;; AU200154620-A; EP1280919-A2; US2003144165-A1
NOVOZYMES AS ; THISTED T	Variant of parent enzyme having pectate lyase activity useful in textile, detergent and cellulose fiber processing industries, comprises alteration of specific amino acids in parent polypeptide backbone.	2002	AU2003223931-A1
NOVOZYMES AS; TSUTSUMI N; VIND J; PATKAR S A	Novel polynucleotide useful for vegetable oil treatment, in pulp and paper industry, detergents, baking, and filtration improvement, has nucleotide sequence encoding lipolytic enzyme.	2001	EP1404827-A2; AU2002234513-A1; US2004101928-A1; JP2004522448-W; CN1526013-A
NOVOZYMES BIOTECH INC	New microbial trypsin variant having chymotrypsin like activity, useful in detergent, leather, chemical, agricultural, pharmaceutical, food and dairy industries.	2002	AU2003275172-A1
NOVOZYMES BIOTECH INC	Producing a mammalian trypsin, for use in the detergent, leather, pharmaceutical, food and dairy industries, comprises cultivating a Fusarium venenatum host strain in a culture medium for expression and secretion of the mammalian trypsin.	2003	US2004043455-A1; AU2003273256-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
NOVOZYMES NORTH AMERICA INC	Enzymatic hydrolysis of cyclic oligomers of poly(ethylene terephthalate) for fibers used in textile industry, involves subjecting cyclic oligomer to action of carboxylic ester hydrolase(s), and nonionic, nonlinear surfactant.	2002	US2004082056-A1; AU2003283952-A1
NOVOZYMES NORTH AMERICA INC; NOVOZYMES AS	Production of ethanol for fuel, beverage, and industrial use, by treating distillers' grain with hemicellulase and/or cellulase to release starch and/or protein, and using released starch and/or protein to produce ethanol.	2002	US2004023349-A1; AU2003238003-A1
NOVO NORDISK AS; SHOWA DENKO	Gene encoding lipase isolated from Pseudomonas SD705 - useful industrially in detergents, food processing and paper and oil manufacture.	1995	JP8228778-A; AU9647315-A; FI9703514-A; EP812910-A1; US5942431-A; CN1177376-A
NOVOZYMES BIOTECH INC; YAVER D; MCARDLE B	New peroxidase polypeptides isolated from the plant fungus Bjerkandera adusta, useful in the industrial polymerization of lignin, oxidation of dyes and polymerization or oxidation of phenolic compounds.	2001	US2002115170-A1

A quarta empresa do ranking, ASGROW SEED, com 38 patentes, apresenta forte presença de parcerias, principalmente com a STINE SEED:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ASGROW SEED CO LLC	New seed of a soybean variety, designated SN79449, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2000	US6448478-B1
ASGROW SEED CO LLC	New seeds and plants of soybean variety 9518269712737, useful as human food, livestock feed, or as raw material for industrial application, e.g. source of vegetable oil and protein meal, or as cooking oil, margarine and salad dressings.	2000	US6448479-B1
	Novel seed of soybean variety designated SD93038 ATCC PTA-5329, useful as human food, livestock feed, and as raw material in industry.	2000	US6683233-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel soybean seed designated SN82579, useful for producing soybean hybrid plants or seeds with superior characteristics, and as human food, live stock feed or raw material in industry.	2000	US6459020-B1
ASGROW SEED CO LLC; EBY W H; HICKS J; BYRUM J R; STINE SEED FARM INC	New seed of a soybean variety 0120284, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2002184668-A1
ASGROW SEED CO LLC; EBY W H; HICKS J; BYRUM J R; STINE SEED FARM INC	New seeds and plants of soybean variety 010007, useful as human food, livestock feed, or as raw material for industrial application, e.g. source of vegetable oil and protein meal, or as cooking oil, margarine and salad dressings.	2001	US2002184665-A1
	New soybean (Glycine max) 0120287 (ATCC PTA-1162) plants, seeds and plants derived from these seeds, useful as human food, livestock feed, as raw material in industry, and in developing stable and high yielding cultivars.	2001	US2002184670-A1
ASGROW SEED CO LLC; EBY W H; HICKS J; BYRUM J R; STINE SEED FARM INC	New soybean (Glycine max) cultivar 0127562 useful as a source of human food and livestock feed, as a raw material in industry, and sources of vegetable oil and protein meal.	2001	US2002174459-A1
	New soybean variety 010011, useful for human food, livestock feed or as a raw material in industry.	2001	US2002184669-A1
ASGROW SEED CO LLC; STINE SEED FARM INC; EBY W H; NICKELL A D	New 925011 soybean variety, useful for human food, livestock feed or as raw material in industry.	2001	US2002174456-A1
ASGROW SEED CO LLC; EBY W H; HOLMES B A; STINE SEED FARM INC	New soybean (Glycine max) cultivar 940021 (ATCC accession number PTA-1162) useful as a source of human food and livestock feed, as a raw material in industry, and sources of vegetable oil and protein meal.	2001	US2003005492-A1
	New soybean seed variety 0120300 useful for breeding and transforming soybeans, for the production of human food, livestock feed, and as a raw material in industry.	2001	US2002184671-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ASGROW SEED CO LLC; EBY W H; MATSON K W; BYRUM J R; STINE SEED FARM INC	Novel soybean seed S010354 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003213023-A1
ASGROW SEED CO LLC; EBY W H; MATSON K W; STINE SEED FARM INC	New seed of soybean variety designated 0332145, for use as human food, live stock feed and as a raw material for industry, and oil extracted from the plant is used in cooking, margarine, and salad dressings.	2002	US2003208799-A1
ASGROW SEED CO; EBY W H; STINE SEED FARM INC	Novel seed of a soybean variety 0332134, useful as human food, livestock feed and as raw material in industry.	2002	US2003200572-A1
	New soybean cultivar 82147657, useful for producing soybean hybrids, or as human food, livestock feed, or as raw material in industry.	2001	US2003009789-A1
	Novel seed of a soybean variety 0332133, useful as human food, livestock feed and as raw material in industry.	2002	US2003200573-A1
ASGROW SEED CO; EBY W H; STINE SEED FARM INC	Novel seed of a soybean variety 0332139, useful as human food, livestock feed and as raw material in industry.	2002	US2003200571-A1
	Novel seed of a soybean variety 0332142, useful as human food, livestock feed and as raw material in industry.	2002	US2003200574-A1
	Novel seed of a soybean variety S010353, useful as human food, livestock feed and as raw material in industry.	2002	US2003204876-A1
	Novel soybean seed 0332122 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003204880-A1
ASGROW SEED CO LLC; STINE SEED FARM INC	New seed of a soybean variety, designated 010003, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2003009792-A1
	New seed of a soybean variety, designated 0120279, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2003009791-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New seed of a soybean variety, designated 240200, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2002188969-A1
ASGROW SEED CO LLC; STINE SEED FARM INC	New seed of soybean variety 709048, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2003009790-A1
	New seed of soybean variety designated 924001, useful as human food, live stock feed and as raw material for industry.	2002	US2004055046-A1
	New seed of the soybean cultivar 921031, useful for producing first generation soybean hybrid seeds and plants with superior characteristics, for human food, livestock feed, and as raw material in industry.	2001	US6448480-B1
ASGROW SEED CO LLC; STINE SEED FARM INC	New soybean cultivar 0120286, useful for producing soybean hybrids, or as human food, livestock feed, or as raw material in industry.	2001	US2002184666-A1
	New soybean variety 919011, useful for human food, livestock feed or as a raw material in industry.	2001	US2002184667-A1
	Novel seed of a soybean variety 0120283, useful as human food, livestock feed and as raw material in industry.	2002	US2003135893-A1
	Novel seed of a soybean variety 0332131, useful as human food, livestock feed and as raw material in industry.	2002	US2003204883-A1
	Novel seed of a soybean variety S010344, useful as human food, livestock feed and as raw material in industry.	2002	US2004003438-A1
	Novel seed of soybean variety designated 0120282, useful as human food, live stock feed and as raw material for industry.	2002	US2003135892-A1
	Novel seed of soybean variety designated 0332147, useful as human food, live stock feed and as raw material for industry.	2002	US2003208804-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel seed of soybean variety designated 924861, useful as human food, live stock feed and as raw material for industry.	2002	US2003213025-A1
	Novel seed of soybean variety designated S010363, useful as human food, live stock feed and as raw material for industry.	2002	US2003213020-A1
ASGROW SEED CO LLC; STINE SEED FARM INC	Novel soybean seed 92422749 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2004045058-A1
	Soybean cultivar 010014 with resistance to Roundup (RTM) herbicides, useful as a foodstuff and for use as a raw material in industry.	2001	US6433258-B1

As 33 patentes do grupo MONSANTO, são apresentadas a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
MONSANTO TECHNOLOGY LLC; CHEN G; HIRONAKA C M; ZHOU H	Glyphosate tolerant wheat 33391 plants (Triticum aestivum) and seeds, and nucleic acids that confer the resistance, suitable for use as a food stuff or raw material in industry.	2001	AU200193044-A; EP1322773-A2; CZ200300629-A3; US2004133940-A1; ZA200301081-A
MONSANTO CO	Plants, seeds and tissues of soybean cultivar 98-061870 useful as human food, livestock feed, a raw material in industry and for producing oil and protein meal.	1999	US6124527-A
MONSANTO CO; MONSANTO TECHNOLOGY LLC	New polyenoic fatty acid isomerase polypeptides and polynucleotides, useful for producing conjugated fatty acids from polyenoic fatty acyl substrates, which are useful in industrial, animal feed and human nutritional applications.	1999	AU200067494-A; BR200012873-A; EP1218497-A1; MX2002001086-A1
MONSANTO TECHNOLOGY LLC	New chimeric gene, useful for increasing the total oil in plants and seeds for food, animal feed, cooking oil or industrial applications.	2002	AU2003298548-A1; US2004221335-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New seed of soybean variety 0034754, useful for human food, livestock feed, and as a raw material in industry.	2002	US2004049816-A1
	New seed of soybean variety 0037209, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2003	US2004148659-A1
	New seed of soybean variety designated 0037357, useful as human food, live stock feed or as raw material for industry.	2002	US2004055045-A1
	New seed of soybean variety designated SN83211, useful as human food, live stock feed and as raw material for industry.	2002	US2004049814-A1
	New seed of soybean variety designated SN83366, useful as human food, live stock feed and as raw material for industry.	2002	US2004055044-A1
	New seed of the corn variety HO1002, useful for corn breeding useful to produce corn hybrids having improved characteristics utilized particularly for agricultural and industrial purposes.	2002	US2003154524-A1
MONSANTO TECHNOLOGY LLC	New seed or population of seed of the corn variety LH268, useful for producing hybrid plants with superior characteristics (e.g., improved nutritional quality) and as human food, livestock feed, and as raw material in industry.	2002	US2004111770-A1
	New seed or population of seed of the corn variety LH306, useful for producing hybrid plants with superior characteristics (e.g., improved nutritional quality) and as human food, livestock feed, and as raw material in industry.	2002	US2004111772-A1
	Novel seed of soybean variety designated 0053840, useful as human food, live stock feed or as raw material for industry.	2002	US2004055047-A1
	Novel seed of soybean variety designated SE73090, useful as human food, live stock feed or as raw material for industry.	2002	US2004055054-A1
	Novel seed of soybean variety designated SN79525, useful as human food, live stock feed or as raw material for industry.	2002	US2004055051-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel seed of soybean variety SE73753, useful for human food, livestock feed, and as a raw material in industry.	2002	US2004055059-A1
	Seed of soybean variety SN64195, useful as human food, live stock feed and as raw material for industry.	2002	US2004049817-A1
MONSANTO TECHNOLOGY; LLC CALGENE LLC	Producing transgenic plants containing long chain polyunsaturated fatty acids, useful for nutritional, pharmaceutical and industrial purposes.	1998	EP1086236-A2; JP2002517255-W; US6459018-B1; MX2000012323-A1
MONSANTO TECHNOLOGY LLC; EBY W H; MATSON K W; BYRUM J R; STINE SEED FARM INC; MONSANTO TECHNOLOGY LLC	New soybean variety designated 0491728, useful as human food, livestock feed, and as raw material in industry.	2003	US2004205851-A1
MONSANTO TECHNOLOGY; LLC STINE SEED FARM INC	New seed of soybean variety 0491737, useful for producing herbicide resistant, insect resistant, or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004221342-A1
	New seed of soybean variety 94137321, useful as human food, livestock feed and as raw material in industry.	2003	US2004205862-A1
MONSANTO TECHNOLOGY; LLC STINE SEED FARM INC	New seed of soybean variety 99271316, useful for producing herbicide resistant, insect resistant or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004221344-A1
	New seed of soybean variety designated 92440927, useful for producing hybrid soybean seed and plant, useful as human food, livestock feed, and as raw material in industry, as source of protein for poultry, swine and cattle.	2003	US2004205857-A1
	New seed of soybean variety designated 94143901, useful as human food, livestock feed and as raw material for industry.	2003	US2004205859-A1
	New seed of soybean variety SO22211, useful as human food, livestock feed and as raw material in industry.	2003	US2004221341-A1
	New seed of soybean variety SO22212, useful as human food, livestock feed and as raw material in industry.	2003	US2004221343-A1
	New seed of soybean variety SO22213, useful as human food, livestock feed and as raw material in industry.	2003	US2004221339-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New soybean seed of variety designated 0491726, useful as human food, livestock feed and as a raw material for industry.	2003	US2004205849-A1
	Novel seed of soybean variety 0487686, useful for producing herbicide resistant, insect resistant, or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004205856-A1
MONSANTO TECHNOLOGY; LLC STINE SEED FARM INC	Novel seed of soybean variety 0491714, useful as human food, livestock feed and as raw material in industry.	2003	US2004168219-A1
	Novel seed of soybean variety 0491725, useful as human food, livestock feed, raw material in industry, cooking oil, margarine, and in salad dressings.	2003	US2004221346-A1
	Novel seed of soybean variety SO22214, useful as human food, livestock feed and as raw material in industry.	2003	US2004205854-A1
MONSANTO TECHNOLOGY; LLP CALGENE LLC; LASSNER M W; SAVIDGE B; MITSKY T; WEISS J D; POST-BEITTENMILLER M A	New nucleic acids encoding tocopherol cyclase, useful in increasing the production or modulation of tocopherol cyclase in a host plant, particularly those plants that produce vegetable oils for edible and industrial uses.	2000	AU200153543-A; EP1274850-A2; US2003170833-A1

A próxima tabela mostra as 30 patentes da AJINOMOTO:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
AJINOMOTO CO INC	A new protein having phosphoserine phosphatase activity, useful in industrial microbiology for the production of L-serine by Corynebacteria.	2000	FR2804961-A1; DE10103509-A1; JP2001275689-A; US2002120122-A1
	New Enterobacter sp. BCRD-1 producing plant tissue decay enzyme - used in food fermentation and feed industries.	1994	JP7255474-A
	Preparation of D-amino acids for cosmetics, pharmaceutical industry - involves culturing specific microorganism capable of converting acyl amino acid to D-amino acid, separating microbial cells from culture and extracting D-amino acid.	1997	JP11113592-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Yeast having long-term freezing resistance for use in bread doughs in bread manufacturing industries - is obtained by hybridization or cell fusion, which increases the ploidy.	1998	JP11313668-A
	Novel protein having D-hydantoinase or D-carbamylase activity, for manufacturing N-carbamyl-D-amino acids and D-amino acids, in chemical industry and in food additives.	2001	JP2003024074-A; US2003113880-A1
	Producing L-amino acids from Escherichia in a medium containing fructose as the main carbon source is useful in industrial fermentation particularly to produce L-tryptophan.	2001	EP1225230-A1; JP2002209596-A; US2003138918-A1
	Production of agmatine, useful as industrial intermediate material for e.g. producing acyl agmatine, involves decarboxylating arginine by using recombinant that has amplified and expressed arginine decarboxylase gene.	2001	EP1260588-A2; JP2002345496-A; KR2002090161-A; US2004086985-A1
AJINOMOTO CO INC	Bacterial cellulose used as industrial materials, clothing materials, materials for medical supplies, functional materials, or materials for foods, comprises ribbon-shaped microfibrils having specific thickness and width.	2003	US2004091978-A1
	Bacterial cellulose useful as industrial and clothing materials, comprises ribbon-shaped microfibrils of specified length and width.	2001	US2002065409-A1
	Efficient, cheap production of L-glutamic acid, especially for food and pharmaceutical industries - by culturing Corynebacterium strain in liquid medium for accumulation in culture medium and then harvesting.	1997	AU9885615-A; EP1004671-A1; BR9811151-A; CN1275165-A; JP2000506337-X
	Genetically-modified Candida utilis for producing foods and drinks enriched with gamma-glutamyl cysteine or cysteine, useful in food industry e.g. for seasoning, by culturing and processing to enhance flavor.	2002	WO2003080832-A1
	Industrial production of dipeptides with use of L-amino acid amide hydrolase by culturing with microorganisms or processed microbial cells, for application in drugs and functional foods.	2001	EP1411060-A1; KR2004026658-A; AU2002355232-A1; JP2003515546-X
	Industrial production of L-threonine by fermentation using Escherichia modified to enhance aspartate aminotransferase activity, with improved productivity.	2002	AU2003211697-A1; US2004132165-A1; EP1479775-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Microorganism-originated aldolases for producing substituted alpha-keto acids, e.g. 4-(indoly-3-ylmethyl)-4-hydroxy-2-oxoglutaric acid as intermediate in synthesis of monatin as natural sweetener on industrial scale.	2003	AU2003261722-A1
	Peptide synthase and encoded gene for industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.	2001	EP1411116-A1; AU2002355234-A1; JP2003515658-X
	Production of active transglutaminase from denatured enzyme by two-stage refolding process for industrial production of active enzyme for use in food production.	1998	AU200017991-A; EP1142990-A1; BR9916627-A; CN1334867-A; JP2000592404-X; US2002090675-A1;
AJINOMOTO CO INC	Efficient secretory production of foreign proteins e.g. transglutaminase employing transformant coryneform bacterium, simply on industrial scale with direct recovery for use in food processing and pharmaceutical industry.	2000	AU200074494-A; BR200014059-A; EP1219713-A1; KR2002038787-A; CN1377413-A; JP2001526973-X; US2003082746-A1; RU2224796-C2
	Novel plasmid derived from Gluconobacter bacteria, useful for genetic manipulation of the bacteria to produce industrially superior strains, which produce D-xylulose and xylitol.	1998	EP979875-A1; JP2000050869-A; CN1256308-A; US6127174-A; BR9903646-A; KR2000017225-A
	Purification of human activin, particularly A type, to highly pure form suitable for medicinal application e.g. as drug preparations for ameliorating or/and treating osteoporosis, easily on industrial scale.	1998	JP11335395-A; EP1081159-B1; DE69905462-E; US6756482-B1
AJINOMOTO CO INC; ADZHINOMOTO GENETIKA RES INST STOCK CO	Novel Escherichia coli which has an ability to produce arginine and utilize acetate, useful for producing L-arginine which is utilized industrially as ingredients of liver function promoting agents.	2000	EP1170358-A1; JP2002017342-A; US2002034793-A1; CN1332250-A; RU2208640-C2
	Industrial process for producing L-amino acids particularly L-phenylalanine and L-threonine by culturing new activity-elevated Escherichia after transforming with yedA gene to enhance productivity.	2001	US2003148473-A1; AU2002355021-A1; RU2229513-C2; EP1449917-A1
	Industrial process for producing L-amino acids, particularly L-phenylalanine and L-tryptophan, by culturing new activity-elevated Escherichia after transforming with yddG gene to enhance productivity.	2002	US2003157667-A1; RU2222596-C1; AU2002355022-A1; EP1449918-A1
AJINOMOTO CO INC; ISHIHARA M; YAMANAKA S	Improved bacterial cellulose, for e.g. industrial material - contains ribbon-form microfibril of specified size.	1997	JP10298204-A; US2002164724-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
AJINOMOTO; ASAHARA T; YASUEDA H	New isolated and purified DNA from a chromosome of a Methylophilus bacterium, useful in the microbial industry, and particularly in polysaccharide production of microorganisms and/or target substances.	2003	US2004166570-A1; JP2004236637-A
AJINOMOTO CO INC; NAT INST TECHNOLOGY & EVALUATION; DOKURITSU GYOSEI HOJIN SEIHIN HYOKA GIJU	Modifying protein properties e.g. improved heat resistance using constant-temperature and constant-humidity microorganisms after gene manipulation and expression, useful in microbial industries particularly in producing enzymes.	2002	JP2003250544-A; AU2003211625-A1
AJINOMOTO CO INC; KIKUCHI Y; DATE M; UMEZAWA Y; YOKOYAMA K; HEIMA H; MATSUI H	Secretion production of foreign proteins by culturing transformant coryneform bacteria, applicable in producing e.g. industrially-useful transglutaminase and human epithelial growth factor.	2001	EP1375664-A1; BR200208136-A; KR2003087042-A; AU2002242986-A1; US2004126847-A1; JP2002580057-X; CN1500145-A
AJINOMOTO CO INC; NISHIUCHI H; SANO K; SUGIMOTO R; UEDA Y	A novel glutathione synthase-lacking Saccharomyces cerevisiae useful for producing gamma-glutamylcysteine and then cysteine for application in food industry to improve flavor.	2000	BR200106663-A; KR2002019564-A; CN1386134-A; US2003124684-A1; JP2001587106-X; EP1201747-B1
AJINOMOTO CO INC; NITTETSU CHEM ENG LTD; NITTETSU CHEM MACH; NITTETSU KAKOKI	Recovering valuable component from crude liquid in e.g. pharmaceutical, fermentation, sugar or chemical industries - by mixing liquid with washing liquid in successive stages and from each stage recovering component via membrane as permeate.	1997	ZA9709288-A; JP10211423-A; CN1194178-A; TW343158-A; SK9701403-A3; KR98032908-A; SG65691-A1; BR9705089-A; US6039879-A; AU9741028-A; SK282079-B6; MX9708029-A1; EP838256-B1; DE69727028-E; PH1199758236-B1
AJINOMOTO CO INC; TANAKA H	Gene expression data analyzer and computer readable recording medium for use in medical, food and cosmetics industries.	2002	AU2003211240-A1
AJINOMOTO CO INC YOKOZEKI K; SUZUKI S	Industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.	2001	EP1411062-A1; US2004137558-A1; AU2002355233-A1; JP2003515548-X

O depositante individual EBY W. H., com 30 patentes, está associado principalmente às empresas STINE SEED e ASGROW SEED, conforme pode ser observado na tabela a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EBY W H	Novel seed of a soybean variety S010347, useful as human food, livestock feed and as raw material in industry.	2002	US2003200577-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Novel seed of soybean variety 0491719, useful as human food, livestock feed and as raw material in industry.	2003	US2004168218-A1
	Novel seed of soybean variety SO22207, useful as human food, livestock feed and as raw material in industry.	2003	US2004221345-A1
EBY W H; STINE SEED FARM INC; ASGROW SEED CO LLC; NICKELL A D	New 925011 soybean variety, useful for human food, livestock feed or as raw material in industry.	2001	US2002174456-A1
EBY W H; HICKS J; BYRUM J R; STINE SEED FARM INC; ANGROW SEED CO LLC	New seeds and plants of soybean variety 010013, useful as human food, livestock feed, or as raw material for industrial application, e.g. source of vegetable oil and protein meal, or as cooking oil, margarine and salad dressings.	2001	US2002188968-A1
	New seed of a soybean variety 0120284, useful as human food, livestock feed, and as raw material in industry, e.g. oil production, or ingredients for paints, plastics, fibers, detergents, cosmetics and lubricants.	2001	US2002184668-A1
	New seeds and plants of soybean variety 010007, useful as human food, livestock feed, or as raw material for industrial application, e.g. source of vegetable oil and protein meal, or as cooking oil, margarine and salad dressings.	2001	US2002184665-A1
	New soybean (Glycine max) 0120287 (ATCC PTA-1162) plants, seeds and plants derived from these seeds, useful as human food, livestock feed, as raw material in industry, and in developing stable and high yielding cultivars.	2001	US2002184670-A1
	New soybean (Glycine max) cultivar 0127562 useful as a source of human food and livestock feed, as a raw material in industry, and sources of vegetable oil and protein meal.	2001	US2002174459-A1
	New soybean variety 010011, useful for human food, livestock feed or as a raw material in industry.	2001	US2002184669-A1
EBY W H; HOLMES B A; STINE SEED FARM INC; ASGROW SEED CO LLC	New soybean (Glycine max) cultivar 940021 (ATCC accession number PTA-1162) useful as a source of human food and livestock feed, as a raw material in industry, and sources of vegetable oil and protein meal.	2001	US2003005492-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New soybean seed variety 0120300 useful for breeding and transforming soybeans, for the production of human food, livestock feed, and as a raw material in industry.	2001	US2002184671-A1
EBY W H; LUSSENDEN R L	New seed of soybean variety designated 0487685, useful for producing hybrid soybean seed and plant, useful as human food, livestock feed, and as raw material in industry, as source of protein for poultry, swine and cattle.	2003	US2004205858-A1
EBY W H; LUSSENDEN R L	Novel soybean seed 0332135 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003208802-A1
EBY W H; MATSON K W; BYRUM J R	Novel seed of soybean variety 0491727, useful for producing herbicide resistant, insect resistant or disease resistant soybean plant, and as human food, livestock feed or raw material in industry.	2003	US2004205852-A1
	Novel seed of soybean variety SO22215, useful as human food, livestock feed and as raw material in industry.	2003	US2004205855-A1
EBY W H; MATSON K W; BYRUM J R; STINE SEED FARM INC; ASGROW SEED CO LLC	Novel soybean seed S010354 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003213023-A1
EBY W H; MATSON K W; BYRUM J R; STINE SEED FARM INC; MONSANTO TECHNOLOGY LLC	New soybean variety designated 0491728, useful as human food, livestock feed, and as raw material in industry.	2003	US2004205851-A1
EBY W H; MATSON K W; STINE SEED FARM INC; ASGROW SEED CO LLC	New seed of soybean variety designated 0332145, for use as human food, live stock feed and as a raw material for industry, and oil extracted from the plant is used in cooking, margarine, and salad dressings.	2002	US2003208799-A1
EBY W H; PENTICO R A	Novel seed of a soybean variety 0322580, useful as human food, livestock feed and as raw material in industry.	2002	US2003200579-A1
EBY W H; RHODES W K	Novel seed of soybean variety 010022, useful as human food, livestock feed and as raw material in industry.	2003	US2004181831-A1
	Novel seed of soybean variety 954011, useful as human food, livestock feed, raw material in industry, cooking oil, margarine, and in salad dressings.	2003	US2004181822-A1
	Novel soybean seed 0332149 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003213028-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EBY W H; STINE SEED FARM INC; ASGROW SEED CO	Novel seed of a soybean variety 0332134, useful as human food, livestock feed and as raw material in industry.	2002	US2003200572-A1
	New soybean cultivar 82147657, useful for producing soybean hybrids, or as human food, livestock feed, or as raw material in industry.	2001	US2003009789-A1
	Novel seed of a soybean variety 0332133, useful as human food, livestock feed and as raw material in industry.	2002	US2003200573-A1
EBY W H; STINE SEED FARM INC; ASGROW SEED CO	Novel seed of a soybean variety 0332139, useful as human food, livestock feed and as raw material in industry.	2002	US2003200571-A1
	Novel seed of a soybean variety 0332142, useful as human food, livestock feed and as raw material in industry.	2002	US2003200574-A1
	Novel seed of a soybean variety S010353, useful as human food, livestock feed and as raw material in industry.	2002	US2003204876-A1
	Novel soybean seed 0332122 and a soybean plant produced by growing the seed, useful as human food, livestock feed, and as a raw material in industry.	2002	US2003204880-A1

As patentes dos depositantes com 14 e 12 patentes (DOKURITSU GYOSEI HOJIN NOGYO SEIBUTSU e NAGATA JOZO KIKAI KK, respectivamente) encontram-se a seguir:

Título da Patente	Depositantes	Ano de Prioridade	Número da Patente
DOKURITSU GYOSEI HOJIN KAGAKU GIJUTSU SH; UNIV TOKYO	Novel isoamylase derived from Porphyridium belonging to Rhodophyceae, useful for manufacturing starch having different structure in food or industrial fields.	2003	JP2004283121-A
DOKURITSU GYOSEI HOJIN NOGYO SEIBUTSU SH; WAKI M	Industrial waste water processing apparatus includes methane and oxygen gas recovery units which are provided in lower periphery portions of treatment tank.	2001	JP2003170189-A

Título da Patente	Depositantes	Ano de Prioridade	Número da Patente
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO	A beta-glucosidase with various physicochemical properties derived from Acremonium sp. fungi useful for food and feed industries, and preparation of clinical test reagents.	2000	JP2002101876-A
	Manufacture of D-tagatose for use in the pharmaceutical industry, comprising culturing specific microorganisms that do not hydrolyse D-psicose.	2002	JP2004000082-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO	Micro reactor for use in chemical industry, has nickel complex supplied to surface of micro channel in substrate for detachedly bonding enzyme molecule on micro channel surface.	2003	JP2004267097-A
	Novel heat-resistant dipeptidase capable of hydrolyzing proline-containing dipeptide and having specific optimum temperature and pH, useful in food industry for reducing bitterness of cheese.	2002	JP2004105091-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; DOKURITSU GYOSEI HOJIN SEIHIN HYOKA GIJU; DOKURITSU GYOSEI HOJIN SHURUI SOGO KENKY; GEKKEIKAN KK	Novel tyrosinase enzyme useful in foodstuff industry, in pharmaceutical or cosmetic industry, for producing melanin, or for screening tyrosinase inhibitor that prevents freckles.	2002	JP2004201545-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; SEIKAGAKU CORP; AMERSHAM BIOSCIENCES KK; NAT INST ADVANCED IND SCI & TECHNOLOGY; SEIKAGAKU KOGYO CO LTD	Glycosaminoglycan sulfotransferase polypeptide and encoding DNA, useful in industrial production of novel physiologically-active glycosaminoglycans with a heparin skeleton.	2002	AU2003220866-A1; JP2004141142-A; EP1482048-A1
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; TANAKA KANKYO KAIHATSU KK; NIREI H; NANIWA K	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.	2002	JP2004097907-A

Título da Patente	Depositantes	Ano de Prioridade	Número da Patente
DOKURITSU GYOSEI HOJIN SHOKUHIN SOGO KEN; KITASATO INST; NAT INST TECHNOLOGY & EVALUATION; OMURA S; IKEDA H; ISHIKAWA; HORIKAWA H; SHIBA T; SAKAKI Y; HATTORI M	Novel polypeptide derived from microorganisms belonging to Actinomycetes, is useful for identifying target sequence or target structure motif derived from Actinomycetes, and in the industrial production of e.g., antibiotics.	2001	CA2384352-A1; KR2002091820-A; US2003119018-A1; EP1262562-A8; JP2003284572-A
DOKURITSU GYOSEI HOJIN SHOKUHIN SOGO KEN; MACHIDA S; TOKUYASU K; MATSUNAGA S; SAKAKIBARA Y; KOBORI M; WEN Z	New peptide acting on a membrane of a microorganism, for preventing putrefaction of food or industrial products and treating an infectious disease, cancer, autoimmune disorders, inflammation and graft versus host disease.	2003	US2004072992-A1; JP2004248666-A
DOKURITSU GYOSEI; HOJIN SHURUI SOGO KENKY	New polygalacturonase enzyme for degrading polygalacturonic acid, useful in improving filtering ability of fruit juices and wine, in the food industry and in biochemical reagents.	2003	JP2004290003-A
DOKURITSU GYOSEI HOJIN SHOKUHIN SOGO KEN; NAT FOOD RES INST MIN AGRIC; NIKKEN CHEM CO LTD	Novel protein having erythrose reductase activity such as erythrose reductase type I, II or III, useful for production of erythritol on an industrial scale.	2001	US2002160480-A1; JP2002281986-A; EP1221478-B1; DE60200426-E
DOKURITSU GYOSEI HOJIN SEIHIN HYOKA GIJU; NAT INST TECHNOLOGY & EVALUATION; AJINOMOTO CO INC	Modifying protein properties e.g. improved heat resistance using constant-temperature and constant-humidity microorganisms after gene manipulation and expression, useful in microbial industries particularly in producing enzymes.	2002	JP2003250544-A; AU2003211625-A1
NAGATA JOZO KIKAI KK	Automatic koji malt extractor - for use in the brewing and chemical industry and for noodle making.	1997	JP10229869-A
	Continuous malt processing method - useful for the malt brewing industry.	1998	JP11196853-A

Título da Patente	Depositantes	Ano de Prioridade	Número da Patente
	Controlling production of koji used in brewing industry, involves adjusting space volume of the lower portion of culture bed and dissipating the calorie from koji and adjusting moisture content.	1999	JP2000350572-A
	Insertion and removal device for cover sheet of solid culture unit used in enzyme and brewing industries, has ring-shaped fixing tool for fixing circular sheet over culture bed.	1999	JP2001086978-A
NAGATA JOZO KIKAI KK	Malt production method for enzyme industry, brewing industry, involves circulating internal air only within processing room or by introducing outer air at the time of initiation of malt production.	1998	JP2000189149-A
	Pollution control method for brewing and food industry - involves automatic measurement of contamination caused by organic substances.	1997	JP10276759-A
	Producing malt for use in brewing industry, involves controlling room temperature and relative humidity of the malt producing chamber and maintaining a high carbon dioxide concentration.	2000	JP2002045167-A
	Rice washing device for refined sake brewing industry - comprises motor for rotating truncated conical vessel to enable flow of polished rice along inclined wall and sprinkler.	1997	JP11114433-A
	Side plate of rotary koji producing apparatus - useful for batch culture in the enzyme and brewing industries.	1998	JP11196854-A

Título da Patente	Depositantes	Ano de Prioridade	Número da Patente
	Side wall structure of malt-producing system used for enzyme and brewing industry - consists of side plate whose upper portion is attached to smooth cylindrical shaped side wall.	1998	JP11299474-A
	Upper cover switching apparatus of cereal processing apparatus in enzyme distillation industry - has air cylinder which makes opening-closing arm to open upper cover of apparatus by moving in parallel to apparatus main body.	1997	JP11000120-A
NAGATA JOZO KIKAI KK	Ventilation method for automatic koji producing apparatus - for enzyme and brewing industry, comprises increasing resistance to air by culture floor.	1997	JP10276760-A

TERMOS

Constam 9 termos de interesse do tema Bioindústria, sendo que somente 2 são pertinentes a patenteamento.

TEMA	TERMOS	Nº de Patentes focadas
Bioindústria	Bioprodutos	5
	Designing	172

3.1 Bioprodutos

Focando-se no título bioproduto, identificam-se 5 patentes, sendo 3 dos Estados Unidos, 1 da Suécia e 1 da África do Sul. Não há concentração de depositantes.

Tabela dos **países depositantes** em Bioprodutos:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Isolated nucleic acids encoding dodecanoic diacid synthesizing enzyme, cyclododecanone monooxygenase for bioproduction of dodecanoic diacid from cyclododecanone.	1999	EP1235911-A2; US2003215930-A1
	Membrane enzyme reactor, useful for producing bioproducts, comprises a lidded container divided into cells by frames covered with meshes for supporting an immobilized biocatalyst.	2000	US6379922-B1
	Novel isolated polypeptide having 2,5-diketo-D-gluconic acid permease activity, useful for increasing 2-keto-L-gulonic acid bioproduction, and thus ascorbic acid production.	2000	AU200181068-A; EP1305422-A2; US2004030113-A1; JP2004514421-W; MX2003001030-A1; CN1527880-A
Suécia	Separation of bioproduct from cell culture mixture involves passing through adsorbent material bed of material for preventing non-specific adsorption of unicellular organism and eluting adsorbed bioproduct.	2001	AU2002309430-A1; US2004175788-A1
África do Sul	Production of bioproducts involves establishing an environment under controlled conditions where microorganisms oxidize slurry containing metal sulfide minerals, and separating and recovering bioproducts from the slurry.	2000	AU200220284-A; EP1346071-A2; US2004038354-A1

Tabela dos **depositantes** em Bioprodutos:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
BILLITON LTD SA; BHP BILLITON LTD SA; DEW D W; DU PLESSIS C A	Production of bioproducts involves establishing an environment under controlled conditions where microorganisms oxidize slurry containing metal sulfide minerals, and separating and recovering bioproducts from the slurry.	2000	AU200220284-A; EP1346071-A2; US2004038354-A1
DU PONT DE; NEMOURS & CO E I	Isolated nucleic acids encoding dodecanoic diacid synthesizing enzyme, cyclododecanone monooxygenase for bioproduction of dodecanoic diacid from cyclododecanone.	1999	EP1235911-A2; US2003215930-A1
MICROGENOMICS INC; GENENCOR INT INC; KUMAR M; VALLE F; DARTOIS V A; HOCH J A	Novel isolated polypeptide having 2,5-diketo-D-gluconic acid permease activity, useful for increasing 2-keto-L-gulonic acid bioproduction, and thus ascorbic acid production.	2000	AU200181068-A; EP1305422-A2; US2004030113-A1; JP2004514421-W; MX2003001030-A1; CN1527880-A
NAT SCI COUNCIL	Membrane enzyme reactor, useful for producing bioproducts, comprises a lidded container divided into cells by frames covered with meshes for supporting an immobilized biocatalyst.	2000	US6379922-B1
PROTISTA INT AB	Separation of bioproduct from cell culture mixture involves passing through adsorbent material bed of material for preventing non-specific adsorption of unicellular organism and eluting adsorbed bioproduct.	2001	AU2002309430-A1; US2004175788-A1

3.2 Designing

Neste termo, os Estados Unidos têm a liderança em patenteamento, com 116 das 157 patentes, seguido do Japão, com 28 e da Grã-Bretanha, com 13.

Tabela dos top **países depositantes** em Designing:

País Depositante	Nº de Patentes
EUA	116
Japão	28
Grã-Bretanha	13

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	A composition for assaying and designing antiviral agents specific for Hepatitis C virus (HCV) comprises a purified proteolytic polypeptide from HCV or a polynucleotide which encodes HCV protease.	2001	US2003064499-A1
	An isolated maize DNA molecule encoding a protoporphyrinogen oxidase (protox) which are useful for rationally designing new inhibitory herbicides and for producing herbicide-tolerant transgenic plants and seeds.	2000	AU200160114-A
	Bisubstrate inhibitors of kinases, useful in vivo in treating e.g. cancer, inflammation, and in vitro for designing better inhibitors, comprises peptide and nucleotide moieties linked by a tether comprising proton donor.	2000	AU200145879-A; US2002031820-A1
	Composition comprising an isolated, recombinant polypeptide, useful for identifying small molecules that bind to the polypeptides, and for designing a modulator for treatment of P. aeruginosa and E. coli related disease, e.g. cystitis.	2002	AU2003213951-A1
	Composition useful for identifying potential ligand of undecaprenyl pyrophosphate synthase, for drug designing or for solving crystal form of mutant synthase, comprises Staphylococcus undecaprenyl pyrophosphate synthase in crystalline form.	2002	AU2003269334-A1
	Composition, useful for designing modulator for treating bacterial infections, comprising isolated, recombinant polypeptides e.g., acetyl-CoA carboxylase biotin carboxyl carrier subunit derived from Haemophilus influenzae.	2003	WO2004081206-A2
	Compositions comprising recombinant polypeptide targets for pathogenic bacteria, useful for designing modulators for preventing or treating a disease or disorder associated with the species of origin for the polypeptide.	2002	WO2003102190-A2
	Crystal composition, useful for designing topoisomerase inhibitor, comprises a ternary complex of a compound, a protein, and a poly-nucleic acid, and the protein is covalently linked to the phosphorous of poly-nucleic acid.	2000	AU200219815-A; EP1335974-A2
	Crystal of Staphylococcus aureus UDP-N-acetylenolpyruvylglucosamine reductase, useful for designing inhibitors of S. aureus MurB which can be used in the prevention and treatment of S. aureus MurB mediated disease.	1999	AU200065231-A; EP1200599-A1; US2002156585-A1; JP2003523175-W

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Crystalline molecule comprising an ATP binding pocket, substrate binding pocket or nuclear export signal binding pocket of mitogen activated protein activated protein kinase-2, useful for designing binding compounds.	2001	AU2002364141-A1; EP1461758-A2
	Crystalline Staphylococcus aureus peptide deformylase useful for solving structures of other molecules or molecular complexes, and designing modifiers of peptide deformylase activity.	2000	AU200171647-A; US2004202644-A1
	Crystallized nicotinic acid mononucleotide adenylyl transferase for use in designing new antimicrobial agents, comprises four molecules of the enzyme in an asymmetric unit.	2002	US2003124699-A1; AU2002365245-A1
	Crystallized protein-kinase ligand complexes and their structural coordinates useful for designing and identifying protein kinase inhibitors.	1999	AU200031146-A; US2003096303-A1
	Crystallized recombinant short-chain dehydrogenase/reductase from Pseudomonas aeruginosa or Streptococcus pneumoniae, useful for designing potential modulator for preventing or treating those infections.	2002	AU2003281877-A1
	Crystallized recombinant thymidylate kinase from Enterococcus faecalis or Staphylococcus aureus, for designing potential modulator for preventing or treating Enterococcus faecalis or Staphylococcus aureus, related disease.	2002	AU2003280250-A1
	Designing biomaterial implants and engineering tissues, by combining image-based design of pore structures with homogenization theory to compute effective physical properties dependence on material microstructure.	2001	US2003069718-A1; AU2002316355-A1
	Designing capture oligonucleotide probes for use on a support to which complementary oligonucleotides hybridize with little mismatch.	2000	AU200193366-A; EP1303639-A2; JP2004526402-W
	Designing DNA binding proteins of the zinc finger class.	1998	AU9928711-A; EP1062227-A2; US6205404-B1; KR2001041088-A; JP2003502007-W
	Designing inhibitors of human immune deficiency virus type 1 reverse transcriptase - by modelling p66 subunit receptor site and known non-nucleoside inhibitors.	1995	AU9676664-A; US5917033-A
	Designing inhibitors of type 4 prepilin peptidase (TFPP)-like aspartyl protease useful as antibacterial drugs by synthesizing compounds targeting aspartic acid residues of an enzymatic active site of a TFPP-like aspartyl protease.	1999	EP1200567-A1
	Designing metal ion for molecular dynamics simulation, useful e.g. for drug design by energy refinement of zinc-binding protein, maintains correct polyhedral geometry.	1999	AU200057436-A; US2004148149-A1
	Designing of oligo-probes are designed with high target affinity involves determining predictor threshold, calculating thermodynamic parameters, and generating candidate probe sequences.	2003	US2003198987-A1; AU2003213670-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Designing polyepitopic construct, involves sorting multiple HLA epitopes, introducing flanking amino acids at C+1 position of epitopes, introducing spacer residues between two epitopes, and selecting the construct.	1999	AU200126075-A; EP1242108-A1; KR2002084424-A; CN1437476-A; JP2004512815-W; MX2002006554-A1
	Designing primers for simultaneous amplification of target DNA fragments in a single multiplex polymerase chain reaction, for high throughput multiplex DNA sequence amplification, comprises aligning two primers.	2002	AU2003285861-A1
	Designing synthetic genes for optimal protein expression in a host cell comprises harmonizing synonymous codon usage frequency between the foreign DNA and the host cell DNA.	2002	AU2003228440-A1; US2004209323-A1
	Designing synthetic nucleic acid sequences for improved amplification, expression in host cell, by comparing free energy of folding of a starting polynucleotide and a modified polynucleotide having a codon replacement.	2000	EP1189921-A2; US2003064432-A1
	Designing vector linker pharmacophore conjugates used to treat or prevent diseases by selecting pharmacophore with affinity for 1st target, vector with affinity for different 2nd target and linker.	2000	AU200070824-A; EP1212096-A2; JP2003507439-W
	Designing zinc finger protein that has three zinc fingers from N-terminus and C-terminus that bind to subsites in 3' to 5' direction, in a target site, by selecting zinc fingers that bind their respective subsites.	2001	US2003068675-A1
	Detecting binding of a target molecule to a lantibody display peptide, useful for designing new lantibodies directed towards nucleophilic targets, involves expressing the peptide in a host cell.	2001	US2002052005-A1
	Determining the susceptibility of a HIV virus to at least 1 drug, useful for designing a drug regime for an HIV-infected patient, comprises the genotyping or phenotyping of HIV integrase.	2001	EP1285971-A2; US2003124514-A1
	Determining viral antigenic protein variants for designing vaccine to variable viral types and analyzing nucleotide sequences of viral proteins and identifying variants that provide selective advantage to virus.	1998	US6337181-B1
	Enzymatically synthesising chirally pure oligo:nucleotide(s) - using template and primer method, useful for designing antisense therapeutics capable of hybridising to, e.g. protein coding mRNA region.	1995	EP747479-A1; AU9659218-A; US5932450-A; JP11513881-W; KR99022596-A
	Facilitating production of a protein for analyzing, designing and/or modifying an agent that can interact with a viral F protein, comprises expressing a nucleic acid optimized for expression of the protein, using a eukaryotic cell.	2000	AU200223275-A; US2004161846-A1
	Generating a variant using nucleic acids encoding alpha-galactosidases, useful for designing new alpha-galactosidases having increased stability and activity at increased pH and temperature.	2002	US2002150997-A1
	Genomic and complete cDNA sequences of adipocyte specific APM1 and biallelic markers useful for designing suitable means for detecting the presence of APM1 genes in the sample.	1999	AU200010703-A; EP1127120-A1; JP2002528118-W; US2003165967-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Human inositol monophosphatase H1 for therapeutic purposes, for e.g. screening and designing compounds capable of inhibiting inositol monophosphatase H1, and mapping genetic diseases.	1999	US6130051-A
	Identifying a modulator of gene expression for drug designing, by contacting a compound library with a cell expressing an anti-cell death gene and reporter gene, and determining alteration in reporter gene expression.	1999	AU200033802-A; EP1157126-A1; JP2002541779-W
	Identifying a site or binding region on a protein for identifying druggable regions and designing therapeutic compounds, by using mass spectrometry, nuclear magnetic resonance and X-ray diffraction analysis.	2001	US2003068831-A1; AU2002332390-A1
	Identifying candidate integrin modulating compound, involves generating three-dimensional structure of beta A domain of non-ligand bound integrin, designing or selecting candidate integrin modulating compound, and identifying compound.	2003	WO2004067724-A2
	Identifying compounds that modulate MTA/AdoHcy nucleosidase activity, by designing compound that interacts with three-dimensional structure of the nucleosidase and determining whether the compound affects the activity.	2001	CA2390971-A1
	Identifying heteroassociating (poly)peptides involves designing an appropriate coiled-coil library and screening by using a library versus library approach.	1999	EP1194539-A2
	Immune deficient mouse having implanted prostate cancer - useful as models for, e.g. studying stagewise progression of cancer and for designing specific therapeutic regimen(s).	1996	EP953039-A1; JP2001502537-W; AU200131403-A
	Interleukin-1 beta converting enzyme (ICE) crystal structure - useful for designing and evaluating cpds., esp. inhibitors that bind to ICE active site or accessory binding site.	1994	JP10504447-W; AU9896113-A; US6057119-A; AU733479-B; EP1365020-A1
	Mammalian phosphodiesterase 1B crystal, useful for designing, modifying and assessing the activity of potential inhibitors that are useful as psychotherapeutics.	2003	WO2004087906-A1
	Measuring the genomic replication of RNA-dependent RNA polymerase (RDRP) virus, for designing therapies for the treatment of cells infected with RDRP viruses, by transfecting cultured cells with a construct comprising the cDNA.	2001	EP1360276-A2; AU2002240214-A1; US2004126388-A1; MX2003006634-A1
	Method of designing Ser/Thr or Tyr kinase inhibitor useful for treating, example breast cancer, restenosis, asthma or hypertension.	1998	AU9926790-A; ZA9901225-A; EP1054976-A1; JP2002504339-W; US2003165899-A1
	Modifying a polypeptide, useful for designing or engineering less immunogenic molecules intended for use in therapy, by modifying an immunodominant epitope identified using an antibodies from a naive human or animal population.	2001	AU200245756-A; EP1328547-A1; US2004209324-A1
EUA	New Beta-site APP cleaving enzyme (BACE) proteins and protein crystal, useful in designing compounds that inhibit or modulate BACE, in drug screening assays, and in identifying receptors.	2001	EP1409660-A2; AU2002345247-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New choline phosphate cytidylyltransferase, useful in regulating phosphatidylcholine biosynthesis and in discovering and designing of new herbicides.	2000	US6730823-B1
	New composition comprising an oligonucleotide targeted to the cloverleaf structure of the tRNA of a selected pathogen, useful as antibiotics or anticancer agents, or as a model for designing antibiotics.	2000	US6448059-B1
	New crystal of dipeptidyl peptidase IV capable of analyzing its three-dimensional structure, useful for designing, identifying, evaluating or searching an effector of the dipeptidyl peptidase IV.	2002	AU2003253369-A1
	New crystal of ketopantoate reductase useful in drug discovery, particularly for designing new antibacterial agents which can inhibit panthothenate synthesis in bacteria and fungi, or to modulate the activity of the enzyme.	2001	US2003073219-A1; EP1390510-A1; AU2002307870-A1
	New crystal of the zeta chain-associated protein of 70 kDa (ZAP-70) kinase, useful for designing a ligand or low molecular compound which inhibit the biological activity of ZAP-70 kinase.	2002	AU2003270271-A1
	New crystalline mitogen-activated protein kinase-activated protein kinase-2, useful for designing and identifying inhibitors as potential antiinflammatory agents.	2002	US2004005686-A1; AU2003217953-A1
	New crystallised calcineurin molecules - used for the analysis of FKBP12/FK506 binding and for identifying or designing immunosuppressant cpds.	1995	AU9667668-A; EP846163-A2; JP11511016-W; US5978740-A
	New crystallized hepatocyte nuclear factor 4-gamma (HNF4-gamma) ligand binding domain polypeptide, useful for pharmaceutical preparation and in designing compounds acting as modulators of biological activity of HNF4 polypeptide.	2001	AU2002245372-A1
	New crystallized MarR family proteins that regulate multiple antibiotic resistance, useful for designing drugs interacting with MarR family of proteins, or drugs that modulate MarR function, e.g. antibiotic resistance or virulence.	2002	US2003148492-A1; AU2002320532-A1
	New crystallized recombinant dihydrodipicolinate synthase from Haemophilus influenzae, for designing a potential modulator for preventing or treating disease caused by H. influenzae, such as pneumonia, otitis media, and sinusitis.	2003	WO2004081165-A2
	New gyrase inhibitors, useful for treating bacterial infections, and enzyme-inhibitor complexes, and methods for identifying and designing new inhibitors.	2000	AU200132809-A; EP1251849-A1; US2003170858-A1
	New high growth gene encoding a gene product which when knocked out, results in a high growth phenotype, useful in designing diagnostic and treatment strategies for growth disorders, and for developing genetic markers.	1997	US2003191301-A1
EUA	New human inositol monophosphatase H1 polynucleotide, useful for screening and designing compounds capable of inhibiting the enzymes or for treating psychotic or depressive disorders.	2003	US2004126377-A1

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	New human oral cancer cell line, AMOS-III, useful for investigating the molecular basis of tobacco induced cancer, designing novel gene therapeutic strategies or testing the efficacy of retinoids for chemoprevention of oral cancer.	2000	US2002110912-A1; US6730514-B2
	New IkappaB protein kinase, designated IKK-alpha-delta-C, useful for designing therapeutics for immune-system related disorders and inflammatory responses, has a kinase and leucine zipper domain, but no helix-loop-helix domain.	1998	AU9960274-A; US6083732-A
	New isolated antigenic peptides e.g., for G protein-coupled receptors (GPCR), useful for diagnosing and designing drugs for treating conditions in which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer or autoimmune diseases.	2000	AU2002248235-A1
	New isolated nucleic acid molecule encoding transcriptional activator protein, useful as probes or for designing primers to obtain DNA encoding other transcriptional activator proteins.	2000	US6768003-B1
	New isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide having stearoyl-acyl carrier protein desaturase activity, useful for designing and/or identifying inhibitors of enzymes useful as herbicides.	1999	US6762345-B1
	New molecule/molecular complex, useful for designing inhibitors of Staphylococcus aureus thymidylate kinase (TMK), comprises a S. aureus TMK or adenosine triphosphate binding pocket.	1999	AU200066227-A; EP1200565-A2; JP2003517818-W; US2004171050-A1
	New Mycobacterium kansasii specific DNA fragment (KATS2) useful for designing oligonucleotides which are useful for detecting M. kansasii nucleic acid in clinical samples.	1997	EP905259-A1; JP11155589-A; US6291176-B1; CA2244937-C
	New non-antibody proteins having an immunoglobulin fold, useful in research, therapeutic or diagnostic fields, particularly as scaffolds for designing proteins with specific properties, e.g. for binding any antigen of interest.	2000	AU200213251-A; EP1356075-A2; JP2004526419-W
	New nuclear hormone receptor comprising a DNA binding domain and a ligand binding domain, useful as a target for designing new compounds that are important for the control of nematodes in agriculture and medicine.	2001	US2003108987-A1; AU2002339837-A1
	New nucleic acid and its encoded murine endonuclease-SR protein, useful for treating tumors or cancers, e.g. leukemias or lymphomas, or for designing and isolating peptidomimetics or inhibitors of Endo-SR for treating these diseases.	1998	US6455250-B1
	New nucleic acid sequences comprising human expressed sequence tags (ESTs), useful in diagnostic, forensic, gene therapy or chromosome mapping procedures, or for designing expression vectors and secretion vectors.	2000	CA2343602-A1
EUA	New oligonucleotides for identifying olfactory receptor genes, useful in designing pleasing scents and flavors, and in diagnosing male infertility.	2002	AU2003222423-A1

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	New polynucleotide encoding human hepatocyte growth factor receptor, useful for designing modulators of the receptor, and potential antitumor agents.	2001	EP1243596-A2; AU200227606-A; CA2378494-A1; JP2003009887-A; US2004009568-A1
	New polynucleotides encoding AMP deaminase or adenosine deaminase used e.g. for designing or identifying herbicides that inhibit the enzyme activities, and as probes for genetic or physical mapping.	1999	EP1200568-A; AU200065092-A; EP1200568-A2; JP2003506036-W
	New polynucleotides encoding Rab escort proteins, useful in plant cells for controlling cell growth, increasing the efficiency of gene transfer, or designing or identifying inhibitors of cell growth that may be useful as herbicides.	2000	US6312954-B1
	New purified recombinant catalytically active memapsin 2 (beta-secretase), useful for designing and screening of specific inhibitors for the diagnosis, prevention and/or treatment of Alzheimer's disease.	2001	US2002164760-A1
	New recombinant bacterial enzymes involved e.g. in cellular transport and metabolism, useful for designing potential antibacterial agents.	2002	AU2003213950-A1
	New recombinant bacterial enzymes involved in cell membrane biogenesis, useful for designing potential antibacterial agents.	2002	AU2003213949-A1
	New recombinant bacterial enzymes involved in nucleotide transport and metabolism, useful for designing potential antibacterial agents.	2002	AU2003213953-A1
	New recombinant enolase from pathogenic bacteria, useful in designing modulators, potential antibacterial agents.	2002	AU2003218563-A1
	New recombinant mutant nitroreductase having increased nitroreductase activity, useful as a medicament for treating cancer, for converting a prodrug into a cytotoxic agent, and in designing or screening for improved prodrugs.	2001	EP1419241-A2; AU2002330602-A1
	New recombinant nucleic acid encoding orphan SNORF4 receptor, useful as tools for designing drugs for treating patho-physiological conditions, e.g. inflammation, arthritis, ischemia, autoimmune diseases, cancers or ulcers.	2001	US2002161216-A1; AU2002360459-A1
	New representation of the three-dimensional solution structure of an RGS (regulator of G-protein signaling), useful for identifying, selecting or designing agonists and antagonists of RGS4 activity.	2000	AU200159705-A; NO200205378-A; BR200110742-A; EP1290014-A2; KR2003004397-A; US2003186413-A1; JP2003532741-W; CN1440421-A; HU200302548-A2; MX2002011033-A1; ZA200210012-A
EUA	New signaling DNA construct with an enzymatic DNA sequence and a DNA chain of ribonucleotide linkage, useful for isolating nucleic acid enzymes possessing desired characteristics, and designing a signaling allosteric deoxyribozyme.	2002	AU2003244811-A1; EP1474514-A1

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	New suppressor of cytokine signaling 8 (SOCS-8) polypeptide and polynucleotide, useful for expressing the enzyme, for detecting enzyme expression in cells, or in designing antisense molecules for suppressing SOCS-8 expression.	2000	EP1341913-A2; AU2002243250-A1; US2004106784-A1
	New three-dimensional solution structure of receptor interacting protein death domain for designing and selecting potent and selective inhibitors of tumor necrosis factor signaling pathways.	2002	US2003220481-A1; AU2003215077-A1
	New transposable element comprising at least a portion of a nucleic acid comprising two terminal inverted repeat nucleic acid sequences, useful in designing oligonucleotide primers.	2002	US2004043485-A1; AU2003209289-A1
	New tumour necrosis factor alpha converting enzyme - useful for designing TACE inhibitors which treat, e.g. cardiovascular disease, HIV infection, inflammation, etc..	1996	AU9663781-A; ZA9604827-A; EP830130-A1; NO9705438-A;; CN1211918-A; MX9709744-A1; JP2002515020-W; US2002115175-A1; NZ510390-A
	Novel 2C-methyl-D-erythritol 2,4-cyclodiphosphate synthase protein or its functional protein subunit, in crystalline form, useful for identifying and designing inhibitors and activators of the protein.	2001	US2003073134-A1; AU2002322265-A1
	Novel cyclic peptide scaffold for presenting beta-turn hairpin structure, comprising specific amino acid sequence, useful for mimicking in vivo molecular interactions, and designing therapeutic agents.	2002	AU2003301301-A1
	Novel isolated or purified polypeptides that belong to any one of five protein families that co-operate to form the warhead structure, useful for designing new enediyne compounds.	2001	CA2445687-A1
	Novel isolated protein complex having a protein which is postsynaptic density protein or Fe65 interacting with another protein which is PN7740 useful for drug designing for treating neurodegenerative disorder.	2001	AU200214589-A; US2002164655-A1
	Novel molecule of Fab I enzyme comprising Fab I sequence in Plasmodium falciparum, useful for rationally designing inhibitory compounds useful for the prevention and treatment of apicomplexan related diseases.	2001	AU200237731-A; EP1363654-A2; US2004137446-A1
	Novel nucleic acids that inhibit Escherichia coli proliferation, useful for screening for homologous genes and for designing expression vectors.	1999	AU200120419-A; US2003181408-A1
EUA	Novel perosamine synthase homolog protein or its functional protein subunit, in a crystalline form, useful for identifying and designing inhibitors and activators of the protein, and for designing antimicrobials.	2001	US2003101005-A1; AU2002332410-A1

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	Novel polypeptide containing PIN1 peptidyl-prolyl isomerase domain useful for drug discovery and for designing for the identification and design of modulators of PIN1 peptidyl-prolyl isomerase activity.	2002	US2004171019-A1; AU2003281358-A1
	Novel polypeptide useful in designing, identifying or validating ligands to cytoskeletal associated protein-glycine domain, comprises cytoskeletal associated protein-glycine domain and heterologous amino acid sequences.	2001	US2003211538-A1; AU2002360792-A1
	Novel recombinant polypeptide useful for designing a modulator for the prevention or treatment of Streptococcus aureus related disease or disorder.	2001	AU2002333143-A1
	Novel substantially pure GRP94 ligand binding domain polypeptide in crystalline form, useful for designing modulators of GRP94 polypeptide activity that are used for treating cancer, ischemic/reperfusion disorders.	2001	US2003215874-A1; AU2002327804-A1
	Novel substantially pure mammalian carboxylesterase polypeptide, useful for designing or identifying modulators of carboxylesterase polypeptide activity.	2002	US2003235811-A1
	Novel three dimensional structure of Thermus thermophilus 70S ribosome resolved using x-ray crystallography upto 5.5 Angstroms resolution, useful for screening and designing compounds that alter ribosome function.	2001	AU200241614-A; US2002188108-A1; EP1351982-A2; JP2004532972-W
	Nucleic acid encoding a mammalian (human, rat and mouse) SNORF33 receptor which is useful for designing drugs for treating conditions such as a chronic and acute inflammation, arthritis, neurological disorders and microbial infections.	1999	AU200051687-A; EP1100896-A1; JP2003501029-W; US2003105318-A1
	Nucleic acid encoding cyclin-dependent kinase-inhibiting protein - for inhibiting DNA synthesis in tumour cells in vitro, and for designing anti-sense oligo:nucleotide(s) for increasing DNA synthesis in a cell.	1994	AU9646023-A
	Plant DNA molecules encoding herbicide-tolerant forms of protoporphyrinogen oxidase which are useful for rationally designing new inhibitory herbicides and for producing herbicide-tolerant transgenic plants and seeds.	1999	AU200055360-A; EP1200611-A1; CN1373811-A; JP2003507019-W
	Plant N-hydroxyarylamine sulfurtransferase or sulfite oxidase genes for generating transgenic plants with altered levels of sulfur metabolism enzymes useful for isolating or designing new herbicides.	1998	AU9952323-A
	Predicting a biological function of a biopolymer, useful in drug design, decoding human DNA or designing proteins for chemical applications and for nanotechnology, comprises determining a biochemical property of the monomers.	2002	AU2003251289-A1
	Protein database for designing protein pharmaceuticals, includes non homologous proteins having identified single nucleotide polymorphisms that are relevant to the function of protein.	2002	US2004002108-A1; AU2003241565-A1
EUA	Recombinant nucleic acids encoding mammalian SNORF40 receptors, useful for designing drugs for treating cancer, psychotic, neurological, respiratory, and cardiovascular disorders and screening for modulators of the receptor.	1999	AU200059348-A

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	Recombinant phosphodiesterase polypeptide crystal useful for designing modulator of preventing or treating disease or disorder or for designing candidate modulator, has unit cell dimension and space group.	2003	CA2454572-A1
	Selecting a crossover locations in biopolymers, useful for particularly useful designing, engineering and generating new proteins and genes with useful properties, by determining the crossover disruption profiles of biopolymers.	2001	AU200163411-A; US2003032059-A1; EP1283877-A2
	Selecting a desired protein or nucleic acid molecule, useful for designing and producing proteins that bind specifically to chosen ligands, comprises linking a candidate mRNA molecule to its corresponding translated protein.	2001	AU2002356984-A1
	Selecting a desired protein or nucleic acid molecule, useful in designing and producing proteins that specifically bind to chosen ligands, comprises linking a candidate mRNA to a corresponding translated protein to form a cognate pair.	2000	AU200161771-A; EP1290222-A1; JP2003533995-W
	Solid-phase synthesis of probes by coupling monomers to reticles - and computer systems for designing layout of reticles, for synthesis of arrays of oligonucleotide probes for e.g. detecting mutations.	1996	EP1007969-A1; JP2004141152-A
	Structure of 3-deoxy-D-manno-octulosonic acid 8-phosphate synthase, useful for designing modulators, potential antimicrobial agents, also related computer database.	2001	AU2002367784-A1
	Transgenic non-human animal useful for studying and designing therapies for graft rejection, fetal loss, tumor rejection and autoimmune disease, comprising a transgene having sequence encoding CD200.	2003	US2003237106-A1
Japão	An apparatus and a method for designing of a probe for preparation of DNA chips corresponding to multiple bacteria to be differentiated.	2001	JP2002345480-A; US2003069701-A1
	Designing a biomolecular circuit design, for medical research and diagnosis, comprises constructing a circuit containing nodes, edges, a target biomolecule and cell membrane receptor protein.	2002	JP2003223451-A
	Designing a peptide nucleic acid comprises calculation of the binding energy of double strand formation using the nearest base pair model to design the optimal sequence.	2001	JP2003009876-A
	Designing and constructing a variant of Streptoverticillium mobaraense-originated transglutaminase (MTG), for use in food processing, comprises estimating the binding site of MTG based on its stereo-structure.	2000	AU200178739-A; JP2002253272-A; EP1310560-A1; KR2003027037-A; US2004002144-A1; BR200113304-A; CN1469929-A
Japão	Designing antisense compound, by inputting oligonucleotide with antisense effect to target gene, extracting RNA, analyzing gene expression, modifying oligonucleotide to produce antisense effect.	2002	JP2004129650-A

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	Designing biologically active peptides interacting with target amino-acid sequences, preferably in 3 screening steps, using e.g. amino-acid properties and intermolecular binding calculation, for finding pharmaceutically active peptides.	2002	JP2004081178-A
	Designing multifunctional base sequence having two or more functions in different reading frames and protein encoded by base sequence arising from one of three reading frames, useful for generating artificial protein.	2001	US2003224480-A1; JP2003250548-A
	Designing normal orthogonalization sequence, by selecting base sequence that reacts independently with base sequence of candidate sequence group, based on melting temperature in predetermined range limited by threshold value.	2003	WO2004092376-A1
	Designing oligonucleotide sequences free from mishybridization for expressing e.g. DNA sequences of definite length in templates, useful in gene analysis, disease diagnosis and organism identification.	2001	EP1452598-A1; AU2002336316-A1
	Designing primer for gene expression involves fragmenting cDNA prepared by reversely transcribing tissue RNA, adding adaptors to cDNA fragments and amplifying.	2000	JP2002027988-A
	Gene database production method for microarray preparation, comprises searching homology of a candidate sequence determined by a primer probe designing unit, for a matching candidate sequence.	2002	JP2004005319-A
	Gene fragment for designing gene amplification primer or probe specific for Vibrio parahemolyticus gene encoding RNA polymerase sigma 70 factor, the probe containing bases specific to specified bases of rpoD gene.	2001	JP2003047474-A; EP1424401-A1; KR2004019110-A
	Gene fragments of DNA gyrase approximatelyb subunit for designing primers or probes for identification, detection and quantification of Vibrio vulnificus.	2002	JP2004089076-A; AU2003261757-A1
	Method for designing artificial protein - useful for producing proteins with required functions.	1997	JP11193297-A
	Method, computer program and device for designing a physiologically active peptide.	2002	AU2003261900-A1
	New fragments of gyrB gene and rpoD gene of Vibrio cholerae and V.mimicus comprising unique bases specific to the microorganisms, useful for designing probes and primers specific to microbes.	2002	AU2003292842-A1
	Novel crystal of polypeptide containing human bone marrow interstitial cell antigen-1 enzyme activity for identifying, searching, evaluating and designing inhibitors and variants of the enzyme.	2001	JP2002355032-A
	Novel intergenic spacer region of 16S-23S gene of Prevotella nigrescens, useful for designing PCR primers for detecting the bacteria causing periodontal disease.	2002	JP2004057057-A
Japão	Novel nucleic acid of intergenic spacer region of 16S-23S genes of Eikenella corrodens, useful for designing oligonucleotide PCR primers that are useful for detecting Eikenella corrodens in a sample.	2002	JP2004057006-A

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	Novel nucleic acid of intergenic spacer region of 16S-23S genes of Fusobacterium nucleatum, useful for designing oligonucleotide PCR primers that are useful for detecting Fusobacterium nucleatum in a sample.	2002	JP2004057060-A
	Novel nucleic acid of intergenic spacer region of 16S-23S genes of Vibrio vulnificus, useful for designing oligonucleotide PCR primers that are useful for detecting Vibrio vulnificus bacteria.	2002	JP2004033090-A
	Novel water soluble penicillin binding protein (PBP) 2B derived from Streptococcus pneumoniae R6 strain, useful for identifying or designing compound having affinity to PBP 2B and preventing proliferation of bacteria.	2003	JP2004290070-A
	Pharmaceutical screening method - useful for molecular designing of pharmaceuticals against various diseases.	1998	JP11201967-A; US2001019830-A1
	Primer designing apparatus has unit for producing information about primer that satisfies conditions related to presence of polymorphism using information of base sequence and information of base sequence variation.	2002	JP2003210175-A
	Probe design apparatus for gene analysis, has processing unit which divides base sequence of known biopolymer into common area and variation area and designing auxiliary probe, accordingly.	2001	JP2003038160-A
	Probe designing method for use in gene analysis, involves obtaining partial base sequences basis of target base sequence, evaluating suitability, and determining partial base sequence on the basis of evaluation result.	2002	EP1237114-A2; US2003008303-A1; JP2003000280-A
	Producing artificial protein binding to target protein, by modifying binding protein coupling with protein similar to target protein, obtaining and designing artificial protein to bind with target protein.	2002	JP2004033066-A
	Replication method of DNA and apparatus for designing polymerase chain reactions for giving important information in the mechanism of cancerization of cells.	1999	JP2000217599-A
Grã-Bretanha	Assaying lipid uptake in microscopic nematodes for designing compounds for treating fat metabolism disorders, by incubating the worms with a labeled probe having a lipid group, and quantitating the amount of probe taken up by the worm.	2000	AU200164163-A; EP1285269-A2; JP2004524803-W
Grã-Bretanha	Designing a protein immunogen useful for treating chronic viral hepatitis comprises modifying the amino acid sequence of the immunogen and determining whether the T-helper (Th) cells response to the modified immunogen are Th1 or Th2 type.	2000	AU200075465-A; EP1218514-A1; JP2003511075-W; US2004106174-A1
Grã-Bretanha	Designing set of libraries by applying genetic operators and calculating associated dominance indication for each modified library.	2000	AU200219318-A; GB2375536-A; EP1358628-A2; US2004186668-A1
Grã-Bretanha	DNA encoding alpha-4 and delta subunit(s) of the human GABAa receptor - also stably co-transfected eukaryotic cells expressing receptors contg. these subunit(s), used for screening and designing drugs.	1994	EP783576-A1; JP10506534-W; US2003013158-A1
	Library of DNA sequences immobilized on a solid support for selecting and designing polypeptides, comprising nucleic acid binding motifs, in particular zinc finger polypeptides.	2000	AU200075398-A; EP1230355-A2

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	New composite binding zinc finger polypeptide, useful for designing sequence-specific binding proteins regulating gene expression in the fields of molecular biology, and for the diagnosis and treatment of autoimmune disorders.	2001	AU2002322477-A1; US2004197892-A1
	New method of determining a patient's susceptibility to inflammatory disorders - by detecting the presence of an IL-1 (44112332) haplotype, useful in designing treatment strategies that modulate the activity of proteins produced by the IL-1 gene cluster.	1997	ZA9804490-A; NO9905803-A; EP983385-A1; BR9809183-A; CN1278868-A; JP2002500513-W; US2004152124-A1; AU2003200791-A1
	Novel crystalline form of polypeptide comprising catalytic domain of Aurora kinase, whose atomic coordinate data is useful for designing or selecting Aurora chemical inhibitor, and for designing an Aurora protein.	2001	AU2002334125-A1
	Preparation of nucleic acid binding proteins - by designing protein sequences of a Cys2-His2 zinc finger class based on a nucleic acid base triplet in a target nucleic acid sequence.	1997	AU9875424-A
	Protein crystal structure of SET 7/9 histone methyltransferase, useful for selecting or designing ligand for SET 7/9, comprising one or more catalytically active portions of SET 7/9 histone methyltransferase.	2003	WO2004065592-A2
	Rules for designing zinc finger nucleic acid binding proteins specific for any base quadruplet - relate bases in the quadruplet to specific amino acids in the alpha-helical binding motif, used to detect target nucleic acids, e.g. for identification of mut	1997	AU9875426-A; EP983351-A1; JP2001527417-W
	Selecting for an agent that inhibits the enzyme Rmlc, useful for selecting antimicrobial compounds, involves providing a three-dimensional structural model of Rmlc active site and designing inhibitory agent.	1999	AU200079338-A
	Use of translocated intimin receptor (Tir), Tir binding site of intimin for designing and selecting an agent capable of interfering with or preventing Tir-intimin binding useful in treating or diagnosing bacterial infection.	2000	GB2367294-A; AU200160457-A

Com relação aos depositantes, o de maior representatividade é a empresa Affinium Pharm, com 13 patentes, apresentadas a seguir:

Tabela dos top **depositantes** em Designing:

Depositante ou (Corporação)	Nº de Patentes

AFFINIUM PHARM INC	13
VERTEX PHARM INC	6
DU PONT DE NEMOURS & CO E I	5
PHARMACIA & UPJOHN CO	5
UNIV CALIFORNIA	4
TOYOBO KK	4
UNIV NORTH CAROLINA	4

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
AFFINIUM PHARM INC	Composition comprising an isolated, recombinant polypeptide, useful for identifying small molecules that bind to the polypeptides, and for designing a modulator for treatment of P. aeruginosa and E. coli related disease, e.g. cystitis.	2002	AU2003213951-A1
	Composition, useful for designing modulator for treating bacterial infections, comprising isolated, recombinant polypeptides e.g., acetyl-CoA carboxylase biotin carboxyl carrier subunit derived from Haemophilus influenzae.	2003	WO2004081206-A2
	Compositions comprising recombinant polypeptide targets for pathogenic bacteria, useful for designing modulators for preventing or treating a disease or disorder associated with the species of origin for the polypeptide.	2002	WO2003102190-A2
	Crystallized recombinant short-chain dehydrogenase/reductase from Pseudomonas aeruginosa or Streptococcus pneumoniae, useful for designing potential modulator for preventing or treating those infections.	2002	AU2003281877-A1
	Crystallized recombinant thymidylate kinase from Enterococcus faecalis or Staphylococcus aureus, for designing potential modulator for preventing or treating Enterococcus faecalis or Staphylococcus aureus, related disease.	2002	AU2003280250-A1
AFFINIUM PHARM INC	New crystallized recombinant dihydrodipicolinate synthase from Haemophilus influenzae, for designing a potential modulator for preventing or treating disease caused by H. influenzae, such as pneumonia, otitis media, and sinusitis.	2003	WO2004081165-A2

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	New crystallized, recombinant polypeptide derived from Streptococcus pneumoniae having deoxyuridine 5'triphosphate nucleotidohydrolase activity, for designing a modulator for preventing an S.pneumoniae related disease.	2003	AU2003250684-A1
	New recombinant bacterial enzymes involved e.g. in cellular transport and metabolism, useful for designing potential antibacterial agents.	2002	AU2003213950-A1
	New recombinant bacterial enzymes involved in cell membrane biogenesis, useful for designing potential antibacterial agents.	2002	AU2003213949-A1
	New recombinant bacterial enzymes involved in nucleotide transport and metabolism, useful for designing potential antibacterial agents.	2002	AU2003213953-A1
	New recombinant enolase from pathogenic bacteria, useful in designing modulators, potential antibacterial agents.	2002	AU2003218563-A1
	Novel recombinant polypeptide useful for designing a modulator for the prevention or treatment of Streptococcus aureus related disease or disorder.	2001	AU2002333143-A1
AFFINIUM PHARM INC; GREENBLATT J; EDWARDS A; ARROWSMITH C; MENDLEIN J D	Identifying a site or binding region on a protein for identifying druggable regions and designing therapeutic compounds, by using mass spectrometry, nuclear magnetic resonance and X-ray diffraction analysis.	2001	US2003068831-A1; AU2002332390-A1
	Crystalline molecule comprising an ATP binding pocket, substrate binding pocket or nuclear export signal binding pocket of mitogen activated protein activated protein kinase-2, useful for designing binding compounds.	2001	AU2002364141-A1; EP1461758-A2
VERTEX PHARM INC	Interleukin-1 beta converting enzyme (ICE) crystal structure - useful for designing and evaluating cpds., esp. inhibitors that bind to ICE active site or accessory binding site.	1994	JP10504447-W; AU9896113-A; US6057119-A; EP1365020-A1
	Method of designing Ser/Thr or Tyr kinase inhibitor useful for treating, example breast cancer, restenosis, asthma or hypertension.	1998	AU9926790-A; ZA9901225-A; EP1054976-A1; JP2002504339-W; US2003165899-A1
VERTEX PHARM INC	New crystallised calcineurin molecules - used for the analysis of FKBP12/FK506 binding and for identifying or designing immunosuppressant cpds.	1995	AU9667668-A; EP846163-A2; JP11511016-W; US5978740-A

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	New gyrase inhibitors, useful for treating bacterial infections, and enzyme-inhibitor complexes, and methods for identifying and designing new inhibitors.	2000	AU200132809-A; EP1251849-A1; US2003170858-A1
VERTEX PHARM INC; BELLON S; BEMIS G; WILSON K; FITZGIBBON M	Crystallized protein-kinase ligand complexes and their structural coordinates useful for designing and identifying protein kinase inhibitors.	1999	AU200031146-A; US2003096303-A1
DU PONT DE NEMOURS & CO E I	New choline phosphate cytidylyltransferase, useful in regulating phosphatidylcholine biosynthesis and in discovering and designing of new herbicides.	2000	US6730823-B1
	New isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide having stearoyl-acyl carrier protein desaturase activity, useful for designing and/or identifying inhibitors of enzymes useful as herbicides.	1999	US6762345-B1
	New polynucleotides encoding Rab escort proteins, useful in plant cells for controlling cell growth, increasing the efficiency of gene transfer, or designing or identifying inhibitors of cell growth that may be useful as herbicides.	2000	US6312954-B1
	Plant N-hydroxyarylamine sulfurtransferase or sulfite oxidase genes for generating transgenic plants with altered levels of sulfur metabolism enzymes useful for isolating or designing new herbicides.	1998	AU9952323-A
DU PONT DE NEMOURS & CO E I; PIONEER HI-BRED INT INC	New polynucleotides encoding AMP deaminase or adenosine deaminase used e.g. for designing or identifying herbicides that inhibit the enzyme activities, and as probes for genetic or physical mapping.	1999	AU200065092-A; EP1200568-A2; JP2003506036-W
PHARMACIA & UPJOHN CO	Crystal of Staphylococcus aureus UDP-N-acetylenolpyruvylglucosamine reductase, useful for designing inhibitors of S. aureus MurB which can be used in the prevention and treatment of S. aureus MurB mediated disease.	1999	AU200065231-A; EP1200599-A1; US2002156585-A1; JP2003523175-W
	Crystalline Staphylococcus aureus peptide deformylase useful for solving structures of other molecules or molecular complexes, and designing modifiers of peptide deformylase activity.	2000	AU200171647-A; US2004202644-A1
PHARMACIA & UPJOHN CO	New crystalline mitogen-activated protein kinase-activated protein kinase-2, useful for designing and identifying inhibitors as potential antiinflammatory agents.	2002	US2004005686-A1; AU2003217953-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	New molecule/molecular complex, useful for designing inhibitors of Staphylococcus aureus thymidylate kinase (TMK), comprises a S. aureus TMK or adenosine triphosphate binding pocket.	1999	AU200066227-A; EP1200565-A2; JP2003517818-W; US2004171050-A1
	New suppressor of cytokine signaling 8 (SOCS-8) polypeptide and polynucleotide, useful for expressing the enzyme, for detecting enzyme expression in cells, or in designing antisense molecules for suppressing SOCS-8 expression.	2000	EP1341913-A2; AU2002243250-A1; US2004106784-A1
UNIV CALIFORNIA	Immune deficient mouse having implanted prostate cancer - useful as models for, e.g. studying stagewise progression of cancer and for designing specific therapeutic regimen(s).	1996	EP953039-A1; JP2001502537-W; AU200131403-A;
	New nuclear hormone receptor comprising a DNA binding domain and a ligand binding domain, useful as a target for designing new compounds that are important for the control of nematodes in agriculture and medicine.	2001	US2003108987-A1; AU2002339837-A1
	New nucleic acid and its encoded murine endonuclease-SR protein, useful for treating tumors or cancers, e.g. leukemias or lymphomas, or for designing and isolating peptidomimetics or inhibitors of Endo-SR for treating these diseases.	1998	US6455250-B1
UNIV CALIFORNIA; NOLLER H F; CATE J H D; YUSUPOV M M; YUSUPOVA G Z; BAUCOM A E; LANCASTER L; DALLAS A; LIEBERMAN K	Novel three dimensional structure of Thermus thermophilus 70S ribosome resolved using x-ray crystallography upto 5.5 Angstroms resolution, useful for screening and designing compounds that alter ribosome function.	2001	AU200241614-A; US2002188108-A1; EP1351982-A2; JP2004532972-W
TOYOBO KK	Novel intergenic spacer region of 16S-23S gene of Prevotella nigrescens, useful for designing PCR primers for detecting the bacteria causing periodontal disease.	2002	JP2004057057-A
	Novel nucleic acid of intergenic spacer region of 16S-23S genes of Eikenella corrodens, useful for designing oligonucleotide PCR primers that are useful for detecting Eikenella corrodens in a sample.	2002	JP2004057006-A
TOYOBO KK	Novel nucleic acid of intergenic spacer region of 16S-23S genes of Fusobacterium nucleatum, useful for designing oligonucleotide PCR primers that are useful for detecting Fusobacterium nucleatum in a sample.	2002	JP2004057060-A

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	Novel nucleic acid of intergenic spacer region of 16S-23S genes of Vibrio vulnificus, useful for designing oligonucleotide PCR primers that are useful for detecting Vibrio vulnificus bacteria.	2002	JP2004033090-A
UNIV NORTH CAROLINA	Novel substantially pure mammalian carboxylesterase polypeptide, useful for designing or identifying modulators of carboxylesterase polypeptide activity.	2002	US2003235811-A1
	Nucleic acid encoding cyclin-dependent kinase-inhibiting protein - for inhibiting DNA synthesis in tumour cells in vitro, and for designing anti-sense oligo:nucleotide(s) for increasing DNA synthesis in a cell.	1994	AU9646023-A
	Predicting a biological function of a biopolymer, useful in drug design, decoding human DNA or designing proteins for chemical applications and for nanotechnology, comprises determining a biochemical property of the monomers.	2002	AU2003251289-A1
	Recombinant phosphodiesterase polypeptide crystal useful for designing modulator of preventing or treating disease or disorder or for designing candidate modulator, has unit cell dimension and space group.	2003	CA2454572-A1

4 Tema: Bioinformática

O tema bioinformática teve localizadas 42 patentes no período 1994-2004, com destaque para os Estados Unidos, com 28, conforme tabela abaixo:

Tabela dos **países depositantes** em Bioinformática:

País Depositante	Nº de Patentes
EUA	28
Japão	8
Coréia do Sul	2
Suécia	2
Austrália	1
Escritório Europeu (EP)	1

As patentes por país são mostradas a seguir:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Bioinformatics system for integrated processing of biological data, includes a user interface, a search engine to provide search results, an informatics tool to process search results, and an interfacing mechanism.	2003	US2003176976-A1
	Biological data searching and display, used in bioinformatics, comprises displaying graphical representation of modules which are selected from listing obtained by searching catalog using probe sequence.	1999	AU200074881-A; EP1221126-A2; JP2003509776-W; CN1390332-A
	Cellular network inference method in bioinformatics field, involves selecting valid trail network of low cost from final network pool formed when average cost of valid trail network reaches equilibrium.	2002	AU2003270041-A1
	Computational modeling of parallel DNA synthesis and polymerase chain reaction processes as database tool for pathogen signature selection involves use of modules addressing bioinformatic, kinetic and thermodynamic aspects of both processes.	2004	US2004224345-A1
	Computer implemented determination of hybridization of nucleic acid probes and targets, useful in bioinformatics, by detecting minimal adjusted hybridization intensity which reflects the hybridization.	2002	US2004002817-A1
	Computer implemented gene expression normalization factor calculation for bioinformatics, involves using geometric mean of intensity values obtained from nucleic acid probe arrays of different biological samples.	2000	US2002103604-A1
	Computer system for bioinformatics applications, has server that processes computation request invoked by command line execution by initiating remote computation manager process.	1998	US2002091695-A1
	Confidence measure determination apparatus in bioinformatics field, determines open perimeter confidence measure for data point based on percentage of perimeter of data point occupied by border of respective image snip.	2002	US2004059520-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Creation of amalgamated bioinformatics database from at least first database and second database involves determining set of related concepts in first and second sets of concepts, and generating record in amalgamated bioinformatics database.	2002	AU2003290632-A1
	Data mining platform e.g. for bioinformatics and other knowledge discovery, has modules, each formed from components with each module having input data component, data analysis engine for processing input data.	2001	AU2002304006-A1
	Database creation and modification method in bioinformatics, involves retrieving information related to specific item from basic data source, based on data entry of reference database.	2001	AU2002325870-A1
	Determining method for significance of fold data differences between values of variables in data of samples in several trials for use in bioinformatics.	2000	AU2002246597-A1
	Discovering a candidate target involved in the evolution of a biological pathway comprises manipulating the in vivo system and analyzing data (e.g. pathological, pharmacological or bioinformatics data) obtained from the system.	2001	AU2002365217-A1; EP1451572-A2
	Finding translation initiation codons, useful as bioinformatics tool for analyzing files of nucleic acid sequence data, comprises using Quadratic Discriminant Analysis to determine the translation initiation codon.	2003	US2004067514-A1
	Formatted data structuring method for bioinformatic areas, involves continuously dividing each binary file into quadrants and recording 1-bit count, until all quadrants comprise pure-1 or pure-0 quadrants.	2001	US2003009467-A1
	Identifying biomarkers for particular biological state or condition such as presence or absence of disease, demographic characteristic, or resistance to agent by analyzing expression profiling datas using bioinformatics tools.	2003	US2004153249-A1
	Identifying tissue specific marker genes by taking tissue at a particular developmental stage, cultivating the tissue in vitro, determining gene expression profiles and identifying specific marker genes by bioinformatic analysis.	2002	AU2003233743-A1
	Method for passing information between different applications running on one or more computers e.g. for field of bioinformatics passing input information to target application and inputting input information to target application.	2001	AU200210546-A; EP1364304-A2; US2004059753-A1; JP2004517388-W
	Modular bioinformatics platform for processing biological data, comprises a target identification module for receiving genomic search results and target validation module for receiving proteomic search results.	2003	US2003177143-A1
	New bioinformatically detectable novel viral gene encoding substantially pure nucleic acid, useful for preventing or treating viral diseases, and for detecting expression of VGAM and VCR genes.	2003	AU2003302409-A1; US2004219515-A1
	New bioinformatically detectable regulatory genes (i.e. genomic address messenger or genomic record genes) for specifically inhibiting translation of target genes involved in various human diseases.	2003	AU2003282352-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New libraries of nucleic acid/protein (NAP) conjugates or genetic libraries encoding enzyme fusion proteins, useful in DNA technology and bioinformatics, particularly for identifying genes, proteins or analytes.	2001	AU2002254181-A1
	New transgenic plant comprising a recombinant polynucleotide of any one of more than 500 nucleotide sequences, useful in bioinformatic search methods.	2003	US2004019927-A1
	New transgenic plant having increased abiotic stress tolerance as compared to non-transgenic plants of the same species, useful in bioinformatic research methods.	2003	WO2004076638-A2
	Normal/abnormal class prediction in bioinformatics, involves identifying non-linear system for approximating input/output relation generated by using information characteristics of exemplars from different classes.	2001	AU200214874-A
	Nucleic acid polymer sequence determining method in bioinformatics, involves assigning basecalls to peaks detected in composite trace obtained by combining refined data traces.	2000	AU200183299-A; US2002147548-A1; EP1423816-A2; JP2004527728-W
	Processing of bioinformatic data by analyzing subset of bioinformatic data, providing the bioinformatic data analysis results to customers, and compensating the data suppliers.	2001	US2002188408-A1
	Provision system for information related to one or more probe sets for bioinformatics has input manager, determiner and correlator.	2002	AU2002254767-A1
Japão	Apparatus and method for managing gene expression data, particularly expression images and in situ hybridization studies, comprehensively applicable in medicine, food industry, cosmetics and bioinformatics.	2002	JP2004147640-A; AU2003235071-A1; EP1477910-A1
	Deletion data estimation apparatus for use in bioinformatics field, generates expression-level matrix by taking logarithmic value of expression data, for estimating parameter of stochastic main-component analytical model.	2002	JP2004126857-A
	Detecting a one-base substitution in a nucleic acid based on a hydrogen bond, for use in bioinformatics, comprises changing the hydrogen bond pattern and number of receptor molecules.	2003	JP2004261068-A
	Directed graph layout apparatus for e.g. bioinformatics data, calculates total energy of graph related to genetic data, by combining angle correction power of all nodes connected to respective unit vectors.	2001	JP2003196667-A
	Edit server used in bioinformatics for processing genetic information, comprises that it transmits and receives subsequent sample data, based on session identification data generated when access from client terminal is detected.	2002	JP2004054775-A
	Information relevance display method for use in the field of bioinformatics, by arranging and displaying element information as element nodes, and connecting with edges two element nodes possessing common attribute information.	2003	EP1455283-A2; JP2004265179-A; US2004193587-A1; CN1527225-A
Japão	Method of evaluating similarity between probability model profiles used in speech recognition and bioinformatics by evaluating a similarity value for the models based on dynamic program techniques indicating path selection.	2001	EP1298534-A2; US2003065510-A1; JP2003108187-A; AU200227731-A; AU765400-B

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Sequence information processor useful in bioinformatics for studying sterostructure of protein, has secondary structure acquisition unit, conversion unit and alignment executing unit.	2002	AU2003302523-A1
Coréia	Method for processing database on bioinformatics using user grouping.	2002	KR2004031291-A
	System and method for predicting the function of a protein, comprises using a DNA sequencer, an amino sequencer, and bioinformatics.	2002	KR2004055521-A
Suécia	Conversion methods for the production of overlapping translated protein sequences, useful for database searching for sequence similarity in bioinformatics.	2001	AU2002324393-A1
	New Afx response element with a nucleotide sequence comprising a DNA binding site for the human fork head transcription factor Afx, useful in screening for genes or in bioinformatic analysis of the human genome.	1999	AU200068842-A; NO200200907-A; EP1206533-A1; US2003143583-A1
Austrália	Method for assessing data sets such as multi-parametric data sets useful for bioinformatics to determine differences in population of nucleotide or amino acid sequences and to provide a fingerprint of a biological entity or disease.	2002	AU2003209837-A1
Escritório Europeu	Query evaluation method for use in field of bioinformatics, involves extracting information from tables to be queried, in relation to unique identifiers of gateway table.	2002	EP1349082-A1; AU2003222783-A1

Considerando os depositantes, a próxima tabela mostra aqueles com 2 ou mais patentes, sendo que a empresa LION BIOSCIENCE AG é a líder, com 3 patentes:

Tabela dos top **depositantes** em Bioinformática:

Depositante ou (Corporação)	**Nº de Patentes**
LION BIOSCIENCE AG	3
AFFYMETRIX INC	2
FUJITSU LTD	2
GARDNER S	2
MILLENNIUM	2
ROSETTA GENOMICS LTD	2
SERESUTA REKISHIKO SCI KK	2

Depositantes	**Título da Patente**	**Ano de Prioridade**	**Número da Patente**
LION BIOSCIENCE AG	Database creation and modification method in bioinformatics, involves retrieving information related to specific item from basic data source, based on data entry of reference database.	2001	AU2002325870-A1
	Method for passing information between different applications running on one or more computers e.g. for field of bioinformatics passing input information to target application and inputting input information to target application.	2001	AU200210546-A; EP1364304-A2; US2004059753-A1; JP2004517388-W
LION BIOSCIENCE AG CROFT D; RICHTER S; MINCH E; WEISS S; MUNRO R	Query evaluation method for use in field of bioinformatics, involves extracting information from tables to be queried, in relation to unique identifiers of gateway table.	2002	EP1349082-A1; AU2003222783-A1
AFFYMETRIX INC	Provision system for information related to one or more probe sets for bioinformatics has input manager, determiner and correlator.	2002	AU2002254767-A1
	Computer implemented determination of hybridization of nucleic acid probes and targets, useful in bioinformatics, by detecting minimal adjusted hybridization intensity which reflects the hybridization.	2002	US2004002817-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
FUJITSU LTD	Information relevance display method for use in the field of bioinformatics, by arranging and displaying element information as element nodes, and connecting with edges two element nodes possessing common attribute information.	2001	EP1455283-A2; JP2004265179-A; US2004193587-A1; CN1527225-A
	Method of evaluating similarity between probability model profiles used in speech recognition and bioinformatics by evaluating a similarity value for the models based on dynamic program techniques indicating path selection.	2003	EP1298534-A2; US2003065510-A1; JP2003108187-A; AU200227731-A
GARDNER S	Modular bioinformatics platform for processing biological data, comprises a target identification module for receiving genomic search results and target validation module for receiving proteomic search results.	2003	US2003177143-A1
	Bioinformatics system for integrated processing of biological data, includes a user interface, a search engine to provide search results, an informatics tool to process search results, and an interfacing mechanism.		US2003176976-A1
MILLENNIUM PHARM INC; MORWOOD M R	Identifying tissue specific marker genes by taking tissue at a particular developmental stage, cultivating the tissue in vitro, determining gene expression profiles and identifying specific marker genes by bioinformatic analysis.	2002	AU2003233743-A1
MILLENIUM BIOLOGIX AG	Computer system for bioinformatics applications, has server that processes computation request invoked by command line execution by initiating remote computation manager process.	1998	US2002091695-A1;
ROSETTA GENOMICS LTD	New bioinformatically detectable novel viral gene encoding substantially pure nucleic acid, useful for preventing or treating viral diseases, and for detecting expression of VGAM and VCR genes.	2003	AU2003302409-A1; US2004219515-A1
	New bioinformatically detectable regulatory genes (i.e. genomic address messenger or genomic record genes) for specifically inhibiting translation of target genes involved in various human diseases.		AU2003282352-A1
SERESUTA REKISHIKO SCI KK; CELESTAR LEXICO SCI INC	Apparatus and method for managing gene expression data, particularly expression images and in situ hybridization studies, comprehensively applicable in medicine, food industry, cosmetics and bioinformatics.	2002	JP2004147640-A; AU2003235071-A1; EP1477910-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
SERESUTA REKISHIKO SCI KK	Directed graph layout apparatus for e.g. bioinformatics data, calculates total energy of graph related to genetic data, by combining angle correction power of all nodes connected to respective unit vectors.	2001	JP2003196667-A

TERMOS

O tema bioinformática apresenta 4 termos de interesse, no entanto somente o termo a seguir é objeto de patenteamento.

4.1 Aplicações para Genomas, proteomas e biodiversidade

Foi localizada uma patente focada na aplicação de Bioinformática neste termo, depositada nos Estados Unidos, sendo relacionada a seguir.

Tabela do **país depositante** em Aplicações para Genomas, proteomas e biodiversidade:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Modular bioinformatics platform for processing biological data, comprises a target identification module for receiving genomic search results and target validation module for receiving proteomic search results.	2003	US2003177143-A1

Tabela do **depositante** em Aplicações para Genomas, proteomas e biodiversidade:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
GARDNER S	Modular bioinformatics platform for processing biological data, comprises a target identification module for receiving genomic search results and target validation module for receiving proteomic search results.	2003	US2003177143-A1

5 Tema: Biorremediação

131 patentes focadas no termo biorremediação foram localizadas de 1994 a 2004, sendo que 91 destas foram depositadas nos Estados Unidos, e 16 no Japão, de acordo com a tabela a seguir:

Tabela dos top **países depositantes** em Biorremediação:

País Depositante	Nº de Patentes
EUA	91
Japão	16
Coréia do Sul	15
Grã-Bretanha	5
Escritório Europeu (EP)	4

As patentes por país são mostradas abaixo:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Absorbent device for retention-bioremediation of hydrocarbons, comprises core and matrix for absorbing and accumulating hydrocarbons for controlled reduction by microbes into benign material to avoid pollution.	1999	US2002048807-A1
	Accelerated bioremediation, e.g., of soils - by entraining contaminated materials in an air stream, microenfractionation of the materials, and treatment with chemical/biological agent.	1996	US5824541-A; EP923405-A1; NZ333130-A; MX9810784-A1; CA2257157-C; AU200072210-A;
	Anaerobic bioremediation of sites e.g. soil and groundwater contaminated with halogenated hydrocarbon(s), comprises bio-augmenting with dehalogenating microbial consortium.	1999	US2002015991-A1
	Assessing bioremediation potential of microbial community in soil sample by performing PCR using polynucleotides from microbes and primer, to quantify aromatic oxygenase genes, and determining bioremediation potential of microbes.	2003	US2004161767-A1
	Bioremediation apparatus for anaerobic biodegradation, detoxification, and transformation of toxic (in)organic compounds in contaminated geologic media, comprises set of storage tanks, valve unit, logic controller unit, and screened well.	2003	US2004082055-A1
	Bioremediation device for biological degradation of predetermined waste material in a collection system, comprises a bioactive element, which is soluble over time and with a non-ionic or anionic surfactant.	1999	US6248234-B1
	Bioremediation device for degradation of petroleum hydrocarbon - comprises buoyant container filled with bioremediating micro-organisms.	1995	US5807724-A
	Bioremediation device reducing grease, scum and other organic content of sewage collection systems and grease traps.	1997	US5925252-A; CA2255216-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Bioremediation method of degrading environmental contaminants in sample containing microorganisms involves combining liquid or solid slow release compound to form alcohol and organic acid for degrading.	1999	US6472198-B1
	Bioremediation odor control system, for treating animal waste, comprises reservoir in air communication with animal house, inoculated with aerobic microbes, and means to create negative pressure over bath.	1999	US6254776-B1
	Bioremediation of groundwater contaminated with organic halide and having a microbial population by adding a carbohydrate in situ to the groundwater, and incubating the groundwater in situ under reducing conditions.	1994	US6150157-A
	Bioremediation of hydrocarbon contaminated groundwater.	1997	US5910245-A
	Bioremediation of hydrocarbon-contaminated soils - by application of a surfactant soln. to promote the growth of indigenous microorganisms.	1994	US5436160-A; EP741769-A4; JP9511437-W
	Bioremediation of hydrocarbon-contaminated water with indigenous microorganisms - improved by addition of selected sorbitan esters or alkyl glycoside, used for water in treatment tanks and oily sludge holding ponds..	1995	US5624843-A
	Bioremediation of hydrocarbonaceous material, e.g. oil spills at crude oil production and oil refinery sites, involves contacting hydrocarbonaceous material with a corn material.	2001	US2002187545-A1
	Bioremediation of organic hazardous substance from industrial sites and water supplies.	1998	ZA9901007-A; US5994120-A; AU9926547-A
	Bioremediation of polychlorinated biphenyls contaminated soil.	1998	AU9938070-A; US6083738-A; EP1079946-A1
	Bioremediation of soil contaminated with hexachlorobenzene.	1998	AU9938068-A; EP1079944-A1; TW446585-A
	Bioremediation of wood containing chromated copper arsenate (CCA) comprises inoculating wood with fungal inoculum containing CCA-tolerant fungus.	2002	US2003129732-A1
	Bioremediation or degradation of wood containing chromated copper arsenate, comprises inoculating wood with fungal inoculum and aerating and hydrating the inoculated wood.	2000	US2002182712-A1
	Bioremediation system for contaminated ground water.	1996	US5985149-A
	Bioremediation system for contaminated groundwater or other water sources comprises pressure swing adsorption generator, Venturi and spray chamber.	2001	US2002046972-A1
	Bioremediation system for in situ bioremediation of contaminated water, comprises bioreactor for growing biomass, mixing chamber, injection pump, microbial biofilter, and extraction pump.	1998	US6036852-A
	Bioremediation system for in situ removal of hydrocarbon fluids from soil - without spread of the fluid and without contamination of ground water.	1995	US5628364-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Bioremediation system for remediating contaminated subterranean body of groundwater comprises injection conduits extending in non-vertical fashion below surface of ground water.	2002	US2002185451-A1
	Bioremediation to remove volatile organic compounds from soil and water.	1996	US5891711-A
	Bioremediation, detoxication, and plant-growth enhancing compositions contain microorganisms and cyclic adenosine monophosphate, cyclic guanosine monophosphate, adenylate cyclase, guanylate cyclase, or forskolin.	1999	US6268206-B1
	Bioremediative microorganism for dechlorinating chlorinated biphenyls and for bioremediation, comprises a specific 16S ribosomal subunit nucleic acid sequence.	2001	AU200161739-A; US2003134408-A1
	Bryophyte-remediation composition for bioremediation of bryophytes, e.g. mosses or liverworts in gardens, comprising non-water soluble binding agent and calcium-rich compound sufficient to impact growth of bryophytes.	2003	US2003125207-A1
	Composition forming constructed microbial mats useful for bioremediation or in bioreactors.	1997	US6008028-A
	Composition useful for bioremediation comprises at least one component of a constructed microbial mat, an organic nutrient substrate and an inorganic material.	1998	US6033559-A
	Compsn. for use in e.g. bioremediation and/or generation of fuel mols. - comprises slime-producing cyanobacteria, purple auxotrophic bacteria and organic nutrient substrate, forming constructed microbial mat.	1995	US5614097-A
	Device and method of in situ bioremediation of explosives that fail to detonate - in which microbes are held in proximity to the explosive, to remediate the latter when the microbes are rendered mobile.	1996	ZA9609473-A; CN1202238-A; RU2210729-C2; MX210696-B; US6660112-B1; ZA9805603-A
	Device for determining nutrient limitations on growth of micro=organisms in aqueous environment - allows for activity of immobilised micro=organisms and can be used for bioremediation, biologically enhanced oil recovery, biological leaching of metals, bio	1995	US5686299-A
	DNA encoding cytochrome P450-1pr - used for insect control, bioremediation of insecticides or reducing crop sensitivity to pesticides.	1994	US5734086-A
	Electrochemical removal of ionic and organic contaminants from soil - using electrochemically supported bioremediation, electrolyte management and vacuum techniques.	1996	US5846393-A
	Enhanced anaerobic bioremediation of contaminants in aqueous sediments, comprises application of a pelletized composition comprising biodegradable organic and inorganic materials and a disintegrant.	2000	US6403364-B1
	Enhanced longevity of an in situ microbial filter used for bioremediation of ground water.	1996	US5888395-A
	Enhancing in situ bioremediation of non-aqueous halogenated solvent in ground water by addition of electron donor, e.g. oleyl lactylic acid, linoleyl lactylic acid, or linolenoyl lactylic acid.	2003	US2004157317-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Enhancing in-situ bioremediation of non-aqueous halogenated solvent in ground water involves adding electron donor for microbe-mediated reductive dehalogenation of solvent.	2001	US2002020665-A1
	Expression vector containing genes from Halobacterium halobium that produce gas vesicles in Escherichia coli, used in recombinant protein production or for bioremediation.	1996	US6008051-A
	Gas or fluid exchange apparatus for bioremediation and management of turf (e.g. golf courses), comprises a barometric valve and a blower.	2003	US2004190994-A1
	Granular nutrient and micro-organism use for bioremediation and crop fertilizer has a number of layers and contains biosolid material.	2001	US2002098982-A1; EP1361792-A2; AU2002243599-A1; CN1503625-A
	Identifying active bioremediation pathway involves contacting microbial flora at site with support loaded substrate containing isotope, incubating support to establish biofilm and identifying biomarkers in which isotopes are incorporated.	2004	US2004214259-A1
	In situ bioremediation of contaminated soil and ground water - by inoculating porous inorganic support spheres with non-pathogenic bacteria which destroy or convert contaminant, and introducing these into fractures formed in soil.	1994	US5570973-A
	In situ bioremediation process, for treating contaminated earth and solid waste, involves applying emulsion to permeable media containing contaminant, to establish anaerobic conditions in media.	2002	US2002166813-A1
	In-situ bioremediation process for contaminated aquifers, involves delivering chemical degrading bacterial culture and oxygen containing gas into aquifers such that optimal delivery of gas is performed based on predetermined equation.	2003	US6796741-B1
	In=situ contaminated soil and groundwater bioremediation with treatment fluid - involves increasing permeability of ground by applying ultrasonic sound waves of specified frequency, so that fluid flows through it and maximises contaminant removal.	1995	US5597265-A
	Integrated fish culture and waste water bioremediation system - has fish culture system, water hyacinth system and periphytic algae system operating in throughflow or recycle modes where plants are composted.	1997	US5820759-A
	Isolated bacterium for use in bioremediation of PCB (polychlorinated biphenyl) contaminated environment, uses PCB that corresponds to 2,3 dichloro phenyl as sole carbon source and comprises of strain SK-1.	2000	US6537797-B1
	Making hypermutable bacteria for biocatalysis, bioremediation and drug discovery, involves introducing polynucleotide comprising dominant negative allele of mismatch repair gene under regulatory sequence control.	2000	AU200134992-A; US2002068284-A1; EP1268765-A2
EUA	Method for accelerated bioremediation - esp of material contaminated with hydrocarbons, heavy metals, nuclear fission products, explosives, etc.	1994	AU9466283-A; BR9405960-A; CZ9502597-A3; JP8508198-W; US5593888-A; NZ265501-A; EP695369-B1; DE69431245-E; CA2372565-C; MX219832-B

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Method for continuous bioremediation of hydrocarbon contaminated object such as automobiles, car, air plane parts uses a microbial cleaning solution comprising Achromobacter, Actinobacter etc.	1997	US6057147-A
	Method for in-situ bioremediation of contaminant in ground water, involves adding predetermined amount of electron donor comprising composition containing specific amount of chitin, to ground water.	2003	US2004195176-A1
	Method for the bioremediation of wood containing chromated pentachlorophenol comprises inoculating the wood with fungal inoculum comprising e.g. pentachlorophenol tolerant fungus, and aerating and hydrating the inoculated wood.	2002	US2002146812-A1
	Minicell library for cancer therapy and for bioremediation, comprising two or more minicells, each having different exogenous protein, different fusion protein, or constant protein and variable protein.	2002	US2003198996-A1
	Minicell-based bioremediation producing achromosomal and anucleate eukaryotic cells, useful for functional proteomics, and in treating and diagnosing viral, bacterial and parasitic infections, cancer and autoimmune diseases.	2002	US2003219888-A1
	Modifying a selected locus in a cell using recombinant parvoviral vector containing targetting construct - that undergoes homologous recombination at the locus, and modified cells and animals, used e.g. for gene therapy of inherited disease, protein produ	1997	EP981604-A; AU9872521-A; JP2001522244-W
	New bacterial strain (e.g. Paenibacillus validus or Paenibacillus napthalenovorans) for bioremediation degrades a polyaromatic hydrocarbon such as naphthalene, phenanthrene or biphenyl.	2002	US2003100098-A1
	New expression cassette comprises MsPRP2 promoter, and a gene for a protein, operably linked to the promoter, useful for directing heterologous protein expression in plant roots especially in the field of bioremediation.	2003	WO2004085619-A2
	New halogenated emulsan compound for use as a biosurfactant, antimicrobial agent, imaging probe, diagnostic agent and biomaterial, and for use in e.g. delivering drugs, food, and bioremediation of oil-polluted soil.	2004	US2004171128-A1
	New isolated and purified Saccharomyces cerevisiae yeast cell, useful for bioremediation of water, to remove its contaminants.	2002	AU2003223629-A1
EUA	New isolated dicamba-degrading enzymes and DNA - comprising an O-demethylase comprising oxygenase, ferredoxin and reductase, useful for producing transgenic plants and for bioremediation.	1997	NO9904795-A; EP1012257-A1; HU200001737-A2; MX9909086-A1; NZ338093-A; KR2001006014-A; JP2001519663-W; US2003135879-A1; RU2226215-C2; AU200229208-A
	New isolated microalga, Chlorella sp. strain rosebrokii AgSmart 100 (AG-SMART 100) or AgSmart 200, or their derivatives, useful for bioremediation of waste water.	2002	US2003211594-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New isolated or recombinant bacterium or yeast capable of utilizing as a sole carbon source a polychlorinated biphenyl, monochloro-biphenyl or 4-chlorobenzoate, useful for bioremediation of polychlorinated biphenyls.	2003	US2003148501-A1
	New isolated polypeptides having monooxygenase activity, useful for e.g. producing industrial chemicals, improving pharmaceutical production, bioremediation or producing herbicide resistant plants.	1999	AU9953479-A; EP1104459-A1; JP2002522072-W; US2003215859-A1
	New polyol esters of carboxylic compounds containing sulfhydryl groups used for bioremediation of metal e.g. arsenic, mercury and lead, in water and soils.	2003	US2004158095-A1
	New viable plant expressing manganese peroxidase, useful for commercial production of manganese peroxidase for papermaking, waste treatment, bioremediation or treating environmental pollutants.	2002	US2004010820-A1; AU2003253624-A1
	Novel naphthalene dioxygenase mutant having a specific amino acid substitution for preparing chiral diols for use in the polymer, resin, pharmaceutical or rubber industry and for carrying out bioremediation.	1998	AU200011339-A; US2003022335-A1
	Novel pure Paenibacillus validus bacterial strain that degrades polyaromatic hydrocarbons e.g. naphthalene, phenanthrene or biphenyl, useful for bioremediation of environments contaminated with polyaromatic hydrocarbons.	1999	US6503746-B1
	Novel recombinant cells useful for bioremediation and recycling processes.	1998	AU9931389-A; EP1073744-A1; DE69920659-E; US2004224400-A1
	On site bioremediation system to metabolize biodegradable waste by preparing active, logarithmically growing microorganisms comprises controller, culture vessel, stock microorganisms and nutrient media containers.	1998	US6087155-A
	Plant with altered calcium uptake, useful for improving stress resistance and for bioremediation, has altered expression of calcium channel protein from Arabidopsis.	2002	AU2003212542-A1
	Porous solid medium disinfection method for bioremediation, involves applying alternating current voltage pulses between electrodes embedded into medium to generate ozone effective for disinfection.	1998	US6080362-A
	Prediction, quantification and optimization of conditions for field bioremediation by selecting bacterial strain compatible with pH, dissolved oxygen, type of contaminant, temperature and soil of contaminated site.	1998	US6090287-A
	Preemptive bioremediation of oil spills.	1998	AU9952046-A; EP1088109-A1; US6451585-B1
EUA	Preparation of agricultural composition for promoting growth of plants in soil or for bioremediation of soil, by mixing together carbohydrate-based surfactant, e.g. alkyl polyglycoside or alkyl glucoside, and soil additive, e.g. fertilizer.	2003	US2003162664-A1
	Production of transformed plants, particularly transformed wetland plants, useful for bioremediation for removal of pollutants, including heavy metals such as mercury.	1999	AU200043718-A; EP1179077-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Providing metabolizable chemical to microorganisms for bioremediation of contaminated sites in situ, by delivering solid phase particle which releases the chemical over extended period of time to microorganism in water.	1998	US6258589-B1
	Radiation resistant bacteria engineered to detoxify at least one toxin can be used at industrial waste sites contaminated with radioactivity for bioremediation.	1999	AU200077208-A
	Slow release solid composition for anaerobic bioremediation comprises soluble and insoluble organic substrates and complex inorganic phosphates comprising ringed metaphosphates or linear polyphosphates.	2001	US2002090697-A1
	Soil amendment composition used e.g. for bioremediation, comprises insoluble hydratable keratin or keratin hydrogel associated with one or more cationic species.	2000	AU200143347-A; US2004134248-A1
	Solid chemical composition for bioremediation of chemical contaminants in environmental media, e.g. oceans, has Leguminosac or Phacophyta plant fiber materials, Gossypium or Cannabacea plant fiber materials, and enzyme(s).	2000	US6617150-B1
	Storage stable Pseudomonas composition useful in bioremediation.	1997	US5980747-A
	Surface water bioremediation periphyton filtration system utilizes harvested algal biomass to make packaging material.	1998	US5985147-A
	System for contaminated soil bioremediation.	1997	AU9910928-A; US6000882-A; GB2346876-B; NZ504605-A
	System with inoculated water tank and rotating drum containing capture material - for recovering and recycling hazardous air pollutants (HAPs) and/or volatile organic compounds (VOCs) from air stream by bioremediation.	1997	US5780293-A; AU9873857-A
	Treatment of a contaminated organic compound comprises bioremediation and a chemical oxidation reaction of a contaminated organic compound.	2004	US2004208706-A1
	Treatment of medical wastewater involves biologically treating the wastewater in the bioremediation chamber and adding an oxidizing agent to the medical wastewater.	1998	US6126830-A
	Using apparatus for accelerated remediation or bioremediation of contaminated material - comprises generating air stream for entraining contaminated material, microenfractionating contaminated material and treating with chemical/biological amendments and	1997	US5854061-A
	Waste containment system for bioremediation and natural attenuation of contaminated waste sites comprises waste cap with sealing layer having manufactured soil.	1998	US6082929-A
Japão	Bioremediation apparatus for degradation of polychlorinated biphenyl dioxine in contaminated soil - uses bacillus microbe for degradation of polychlorinated biphenyl dioxine.	1998	JP11347533-A
	Bioremediation process for decontamination of soil, water or air involves contacting with microorganism which has ability to decompose organic contaminant, in presence of metallothionein, in internal decomposition system.	2000	JP2002065248-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Contaminated soil purification system for agricultural use, contains contaminated soil from specific purification center, which are purified by bioremediation using microorganisms and recycled to contaminated field.	2001	JP2002307051-A
	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.	2002	JP2004097907-A
	Microorganisms use method for purifying contaminated soil, involves embedding hard charcoal such as Bincho charcoal to soil, leading to microorganisms proliferation and bioremediation.	2000	JP2001340842-A
	New nucleic acid encoding a polypeptide having an apoplasma transportation signal and an environmental pollutant binding region, useful for bioremediation.	2002	JP2004016130-A
	Novel dibenzofuran dioxygenase gene derived from Terrabacter genus encoding dibenzofuran dioxygenase, comprising dioxygenase alpha, beta subunit, ferredoxin and ferredoxin reductase subunit, useful in bioremediation.	2002	JP2003250569-A
	Novel marine luminescent bacteria specified by accession numbers, e.g. FERM P-18887 and FERM P-18888, comprise ammonia decomposition property, useful for bioremediation of polluted marine environment.	2002	JP2004041153-A
	Novel micro algae e.g. Prototheca zopfii, utilizing hydrocarbon at 30-40 degree celsius, useful for bioremediation.	2001	JP2003102467-A
	Novel microbes with high lipolytic capability belonging to Pseudomonas genus and growing at 15-55 degreesC, useful for bioremediation.	2001	JP2003116526-A
	Purification of contaminated soil useful in agrochemical or industrial contaminated fields, comprises peroxides e.g. hydrogen peroxide or sodium peroxide as oxygen generating substance for bioremediation process by aerobic bacteria.	2000	JP2001327955-A
	Reduction of excess sludge in bioremediation of organic waste-containing drainage water by treatment with hydrogen peroxide and microbes, being simple and economical to provide better environment.	2000	JP2001259675-A; KR2002022771-A
	Removing contaminant using plant or microorganism, by removing contaminant present in soil by bioremediation, or phytoremediation, adding acid and dry ice to processing Sat to which cement type is added.	2002	JP2003340434-A
Japão	Soil purification assessment method involves measuring degree of purification of soil that is extracted from its slurry by through-flow stirring, before carrying out bioremediation of organic matter containing soil.	2001	JP2002355664-A
	Soil sanitation facility for processing soil contaminated with heavy oils, comprises soil washing-process installation and bioremediation processing facility installed at same site for performing continuous soil processing.	2002	JP2004008941-A
	Stew bioremediation of organochlorine in soil and/or underground water involves addition of hydrogen donor and decomposing by microorganism.	1998	JP2000107743-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Coréia	Aerobic bioremediation method of oil-contaminated soil using oil decomposing microorganism.	2002	KR2003093664-A
	Biological pollutant treatment method using bioremediation.	1999	KR99078712-A
	Bioremediation method for oil-spoiled soil bioreactor.	2002	KR2003066072-A
	Bioremediation method for recovery of contaminated soil includes e.g. inoculating white-rot fungi or brown-rot fungi into media containing cellulose or lignin.	2000	KR2002000444-A
	Bioremediation method for treating bisphenol methoxychlor using stereum hirsutum.	2002	KR2004026064-A
	Bioremediation method of contaminated soil.	2001	KR2002066579-A
	Bioremediation of oil using hydrocarbon-degrading psychrotrophic microorganism rhodococcus sp. yhlt-2 kctc 10203bp strain, comprises isolating species from bio-membrane and culturing the samples.	2002	KR2003076142-A
	Bioremediation system for contaminated soil.	2000	KR2002027033-A
	Method for producing liquid microbial preparation for removing contaminants and accelerating nutrient, and bioremediation method.	2001	KR2001100064-A
	Microbial composition of fermenting agent for bioremediation of malodorants and manufacturing method thereof.	2000	KR2002027818-A
	New Burkholderia cepacia 2A-12 for bioremediation of polycyclic aromatic hydrocarbons (PAH) contamination.	2002	KR2003066948-A; KR431278-B
	Pah decomposing microorganism for bioremediation of pah contamination in soil, its producing method and oil decomposing compositions containing the same.	2000	KR2001073276-A
	Remediation of open dumping sites comprises in-situ bioremediation and ex-situ thermal desorption.	2001	KR2001100077-A
	Soil bioremediation using electrokinetic.	2001	KR2003014054-A
	Stenotrophomonas maltophilia t3-c for use in bioremediation of oil contamination.	2000	KR2002015567-A
Grã-Bretanha	Bio-plug for providing microorganism source used in bioremediation, comprises sleeve with closed ends and apertures for charging water and discharging microorganisms.	2000	GB2367302-B
	Bioremediation of liquid containing metallic and organic contaminants - preferably using two stages for microbial conversion and degradation of the contaminants.	1997	AU9870560-A
	Bioremediation process for biodegrading organic pollutants, e.g. petroleum-derived hydrocarbons and sewage compounds, includes adding bacterivorous protozoa to bacteria in process.	1999	GB2353792-A; JP2001145875-A; EP1081099-B1; DE60011528-E

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Preparation of composite poly high internal phase emulsion polymer for use in bioremediation comprises adding inclusions to first phase, second phase or high internal phase emulsion and agitating emulsion after onset of polymerization.	2002	AU2003255713-A1
	Treatment of oil-based drilling mud cuttings at land fill site involves applying bioremediation to oil-based drilling mud cuttings contained in one or more containers.	2000	GB2358015-A
Escritório Europeu	A bioreactor for microbial conversion of conventional or co-metabolic conversion substrates, useful for the in-situ bioremediation of contaminated soils and/or groundwaters.	2000	AU200220553-A; US2003168403-A1; EP1370638-A2
	Bioremediation of groundwater that is contaminated with halogen-containing compound involves adding amount of composition comprising fatty acid and/or its ester, and ester of lactic acid.	2002	EP1422001-A1
	Localizing, identifying or marking an allele associated with reduced spore production of mushrooms useful for consumption and bioremediation, comprises using a nucleic acid molecule or its fragment.	1999	AU200066002-A
	Method for bioremediation, useful for removing contaminants or metals, by decreasing cytokinin availability in plants, and cultivating plant on substrate comprising one or more contaminants.	2002	AU2003283321-A1

Os depositantes mais representativos, neste caso, com 3 ou mais patentes são mostrados na tabela abaixo, e suas patentes encontram-se a seguir:

Tabela dos top **depositantes** em Biorremediação

Depositante ou (Corporação)	Nº de Patentes
UNIV CALIFORNIA	4
BIOSAINT CO LTD	3
CHO K S	3

GEOVATION TECHNOLOGIES INC	3
H & H ECO SYSTEMS INC	3
ILLMAN B L	3
MICROBIAL AQUATIC TREATMENT	3
RYU H W	3
SHELL OIL CO	3

A Universidade da Califórnia é o maior destaque, com 4 patentes, cujos títulos, números e prioridades são mostrados a seguir:

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
UNIV CALIFORNIA	Bioremediation of groundwater contaminated with organic halide and having a microbial population by adding a carbohydrate in situ to the groundwater, and incubating the groundwater in situ under reducing conditions.	1998	US6150157-A
	Prediction, quantification and optimization of conditions for field bioremediation by selecting bacterial strain compatible with pH, dissolved oxygen, type of contaminant, temperature and soil of contaminated site.	1998	US6090287-A
	Bioremediation system for in situ bioremediation of contaminated water, comprises bioreactor for growing biomass, mixing chamber, injection pump, microbial biofilter, and extraction pump.	1994	US6036852-A
	Enhanced longevity of an in situ microbial filter used for bioremediation of ground water.	1996	US5888395-A
BIOSAINT CO LTD; CHO K S; RYU H W	Stenotrophomonas maltophilia t3-c for use in bioremediation of oil contamination.	2002	KR2002015567-A
BIOSAINT CO LTD; CHO K S; RYU H W	Bioremediation of oil using hydrocarbon-degrading psychrotrophic microorganism rhodococcus sp. yhlt-2 kctc 10203bp strain, comprises isolating species from bio-membrane and culturing the samples.	2002	KR2003076142-A
BIOSAINT CO LTD; CHO K S; PARK J W; RYU H W; YOO H W; CHO G S	New Burkholderia cepacia 2A-12 for bioremediation of polycyclic aromatic hydrocarbons (PAH) contamination.	2000	KR2003066948-A
GEOVATION CONSULTANTS INC	Enhanced anaerobic bioremediation of contaminants in aqueous sediments, comprises application of a pelletized composition comprising biodegradable organic and inorganic materials and a disintegrant.	2000	US6403364-B1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	Solid chemical composition for bioremediation of chemical contaminants in environmental media, e.g. oceans, has Leguminosac or Phacophyta plant fiber materials, Gossypium or Cannabacea plant fiber materials, and enzyme(s).		US6617150-B1
GEOVATION TECHNOLOGIES INC; HINCE E C	Slow release solid composition for anaerobic bioremediation comprises soluble and insoluble organic substrates and complex inorganic phosphates comprising ringed metaphosphates or linear polyphosphates.	2001	US2002090697-A1
H & H ECO SYSTEMS INC	Accelerated bioremediation, e.g., of soils - by entraining contaminated materials in an air stream, microenfractionation of the materials, and treatment with chemical/biological agent.	1994	US5824541-A; EP923405-A1; NZ333130-A; MX9810784-A1; CA2257157-C; AU200072210-A;
	Method for accelerated bioremediation - esp of material contaminated with hydrocarbons, heavy metals, nuclear fission products, explosives, etc.	1997	AU9466283-A; BR9405960-A; CZ9502597-A3; JP8508198-W; US5593888-A; NZ265501-A; EP695369-B1; DE69431245-E; CA2372565-C; MX219832-B
H & H ECO SYSTEMS INC; GLAZE B S; WARNER K R; HORN T D	Using apparatus for accelerated remediation or bioremediation of contaminated material - comprises generating air stream for entraining contaminated material, microenfractionating contaminated material and treating with chemical/biological amendments and discharging.	1996	US5854061-A
ILLMAN B L; YANG V W; FERGE L A	Bioremediation of wood containing chromated copper arsenate (CCA) comprises inoculating wood with fungal inoculum containing CCA-tolerant fungus.	2002	US2003129732-A1
ILLMAN B L	Bioremediation or degradation of wood containing chromated copper arsenate, comprises inoculating wood with fungal inoculum and aerating and hydrating the inoculated wood.		US2002182712-A1;
ILLMAN B L; YANG V W; FERGE L A; US SEC OF AGRIC	Method for the bioremediation of wood containing chromated pentachlorophenol comprises inoculating the wood with fungal inoculum comprising e.g. pentachlorophenol tolerant fungus, and aerating and hydrating the inoculated wood.	2000	US2002146812-A1;

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
MICROBIAL & AQUATIC TREATMENT SYSTEMS INC	Compsn. for use in e.g. bioremediation and/or generation of fuel mols. - comprises slime-producing cyanobacteria, purple auxotrophic bacteria and organic nutrient substrate, forming constructed microbial mat.	1997	US5614097-A
	Composition useful for bioremediation comprises at least one component of a constructed microbial mat, an organic nutrient substrate and an inorganic material.	1995	US6033559-A
	Composition forming constructed microbial mats useful for bioremediation or in bioreactors.	1998	US6008028-A
SHELL OIL CO	In-situ bioremediation process for contaminated aquifers, involves delivering chemical degrading bacterial culture and oxygen containing gas into aquifers such that optimal delivery of gas is performed based on predetermined equation.	2000	US6796741-B1
SHELL INT RES MIJ BV	A bioreactor for microbial conversion of conventional or co-metabolic conversion substrates, useful for the in-situ bioremediation of contaminated soils and/or groundwaters.	2001	AU200220553-A; US2003168403-A1; EP1370638-A2
SHOWA SHELL SEKIYU KK	Contaminated soil purification system for agricultural use, contains contaminated soil from specific purification center, which are purified by bioremediation using microorganisms and recycled to contaminated field.	2003	JP2002307051-A

TERMOS

Quanto aos termos sugeridos (pelos especialistas) sobre esse tema, a tabela a seguir mostra o número de patentes focadas localizadas para cada termo.

TEMA	TERMOS	Nº de Patentes focadas
Biorremediação	Meio ambiente	7
	Microorganismos	10

5.1 Meio Ambiente

Dentre as 7 patentes focadas em meio ambiente, Japão e Estados Unidos lideram, com 3 patentes cada, seguidos da Rússia, com 1:

Tabela dos **países depositantes** em Meio Ambiente:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.	2002	JP2004097907-A
	New nucleic acid encoding a polypeptide having an apoplasma transportation signal and an environmental pollutant binding region, useful for bioremediation.		JP2004016130-A
	Novel marine luminescent bacteria specified by accession numbers, e.g. FERM P-18887 and FERM P-18888, comprise ammonia decomposition property, useful for bioremediation of polluted marine environment.		JP2004041153-A
EUA	New viable plant expressing manganese peroxidase, useful for commercial production of manganese peroxidase for papermaking, waste treatment, bioremediation or treating environmental pollutants.	2002	US2004010820-A1; AU2003253624-A1
	Solid chemical composition for bioremediation of chemical contaminants in environmental media, e.g. oceans, has Leguminosac or Phacophyta plant fiber materials, Gossypium or Cannabacea plant fiber materials, and enzyme(s).	2000	US6617150-B1
	Novel pure Paenibacillus validus bacterial strain that degrades polyaromatic hydrocarbons e.g. naphthalene, phenanthrene or biphenyl, useful for bioremediation of environments contaminated with polyaromatic hydrocarbons.	1999	US6503746-B1
Rússia	Bioremediation of soils and grounds contaminated with oil and petroleum products for use in biotechnology of environment protection, comprises using a solid-and-liquid phase bioreactor.	2001	RU2193464-C1

Neste termo, todos os depositantes são distintos, e suas patentes são mostradas abaixo:

Tabela dos **depositantes** em Meio Ambiente:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
AS RUSSIA URALS MICROORGANISM ECOLOGY; PERMNIPINEFT CO LTD	Bioremediation of soils and grounds contaminated with oil and petroleum products for use in biotechnology of environment protection, comprises using a solid-and-liquid phase bioreactor.	2001	RU2193464-C1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DENRYOKU CHUO KENKYUSHO	New nucleic acid encoding a polypeptide having an apoplasma transportation signal and an environmental pollutant binding region, useful for bioremediation.	2002	JP2004016130-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; TANAKA KANKYO KAIHATSU KK; NIREI H; NANIWA K	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.	2002	JP2004097907-A
GEOVATION TECHNOLOGIES INC	Solid chemical composition for bioremediation of chemical contaminants in environmental media, e.g. oceans, has Leguminosac or Phacophyta plant fiber materials, Gossypium or Cannabacea plant fiber materials, and enzyme(s).	2000	US6617150-B1
HARAGUCHI Y	Novel marine luminescent bacteria specified by accession numbers, e.g. FERM P-18887 and FERM P-18888, comprise ammonia decomposition property, useful for bioremediation of polluted marine environment.	2002	JP2004041153-A
PRODIGENE INC; GENENCOR INT INC; HOOD E;HOWARD J; CLOUGH R; PAPPU K	New viable plant expressing manganese peroxidase, useful for commercial production of manganese peroxidase for papermaking, waste treatment, bioremediation or treating environmental pollutants.	2002	US2004010820-A1; AU2003253624-A1
UNIV RUTGERS STATE NEW JERSEY	Novel pure Paenibacillus validus bacterial strain that degrades polyaromatic hydrocarbons e.g. naphthalene, phenanthrene or biphenyl, useful for bioremediation of environments contaminated with polyaromatic hydrocarbons.	1999	US6503746-B1

5.2 Microorganismos

Dentre as 10 patentes focadas em microorganismos, todas depositadas a partir de 1998, nos países o destaque é do Japão, com 4 patentes, conforme a tabela a seguir:

Tabela dos **países depositantes** em Microorganismos:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Bioremediation process for decontamination of soil, water or air involves contacting with microorganism which has ability to decompose organic contaminant, in presence of metallothionein, in internal decomposition system.	2000	JP2002065248-A
	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.	2002	JP2004097907-A
	Microorganisms use method for purifying contaminated soil, involves embedding hard charcoal such as Bincho charcoal to soil, leading to microorganisms proliferation and bioremediation.	2000	JP2001340842-A
	Removing contaminant using plant or microorganism, by removing contaminant present in soil by bioremediation, or phytoremediation, adding acid and dry ice to processing Sat to which cement type is added.	2002	JP2003340434-A
Coréia	Bioremediation of oil using hydrocarbon-degrading psychrotrophic microorganism rhodococcus sp. yhlt-2 kctc 10203bp strain, comprises isolating species from bio-membrane and culturing the samples.	2002	KR2003076142-A
	Pah decomposing microorganism for bioremediation of pah contamination in soil, its producing method and oil decomposing compositions containing the same.	2000	KR2001073276-A
EUA	Providing metabolizable chemical to microorganisms for bioremediation of contaminated sites in situ, by delivering solid phase particle which releases the chemical over extended period of time to microorganism in water.	1998	US6258589-B1
	Bioremediative microorganism for dechlorinating chlorinated biphenyls and for bioremediation, comprises a specific 16S ribosomal subunit nucleic acid sequence.	2001	AU200161739-A; US2003134408-A1
Austrália	Microorganisms for bioremediation of soil, sediments contaminated with polycyclic aromatic hydrocarbons, include Stenotrophomonas maltophilia, Pseudomonas fluorescens, Burkholderia and Penicillium janthinellum.	2000	AU200137112-A; US2004023362-A1
Grã-Bretanha	Bio-plug for providing microorganism source used in bioremediation, comprises sleeve with closed ends and apertures for charging water and discharging microorganisms.	2000	GB2367302-B

Todos os depositantes têm a mesma respresentatividade (1 patente cada), mostradas a seguir:

Tabela dos **depositantes** em Microorganismos:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
AHN T Y; GREEN WORLD CO LTD	Pah decomposing microorganism for bioremediation of pah contamination in soil, its producing method and oil decomposing compositions containing the same.	2000	KR2001073276-A
BIOSAINT CO LTD; CHO K S; RYU H W	Bioremediation of oil using hydrocarbon-degrading psychrotrophic microorganism rhodococcus sp. yhlt-2 kctc 10203bp strain, comprises isolating species from bio-membrane and culturing the samples.	2002	KR2003076142-A; KR435231-B
CANON KK	Bioremediation process for decontamination of soil, water or air involves contacting with microorganism which has ability to decompose organic contaminant, in presence of metallothionein, in internal decomposition system.	2000	JP2002065248-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; TANAKA KANKYO KAIHATSU KK; NIREI H; NANIWA K	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.	2002	JP2004097907-A
OHBAYASHI GUMI KK	Removing contaminant using plant or microorganism, by removing contaminant present in soil by bioremediation, or phytoremediation, adding acid and dry ice to processing Sat to which cement type is added.	2002	JP2003340434-A
RESPONSE ENVIRONMENTAL TECHNOLOGIES LTD	Bio-plug for providing microorganism source used in bioremediation, comprises sleeve with closed ends and apertures for charging water and discharging microorganisms.	2000	GB2367302-B
UNIV MARYLAND BIOTECHNOLOGY INST; SOWERS K R; MAY H D	Bioremediative microorganism for dechlorinating chlorinated biphenyls and for bioremediation, comprises a specific 16S ribosomal subunit nucleic acid sequence.	2001	AU200161739-A; US2003134408-A1
UNIV MICHIGAN STATE	Providing metabolizable chemical to microorganisms for bioremediation of contaminated sites in situ, by delivering solid phase particle which releases the chemical over extended period of time to microorganism in water.	1998	US6258589-B1
UNIV VICTORIA TECHNOLOGY	Microorganisms for bioremediation of soil, sediments contaminated with polycyclic aromatic hydrocarbons, include Stenotrophomonas maltophilia, Pseudomonas fluorescens, Burkholderia and Penicillium janthinellum.	2000	AU200137112-A; US2004023362-A1
YAMAGISHI D	Microorganisms use method for purifying contaminated soil, involves embedding hard charcoal such as Bincho charcoal to soil, leading to microorganisms proliferation and bioremediation.	2000	JP2001340842-A

6 Tema: Bioterrorismo

O tema “bioterrorismo” apresenta 17 patentes focadas no período estudado, e, destas, 15 são norte-americanas:

Tabela dos **países depositantes** em Bioterrorismo:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	A compact intense radiation system provides an active defence against chemical and biological weapons - by combining explosive, plasmadynamic and neutron actions.	1997	US5835545-A
	Biological defense mask for use by populations at risk of widespread biological attack via biological weapons of mass destruction, comprises air filter inlet mounted on face piece.	2001	US2004011363-A1; AU2002362132-A1; GB2399025-A
	Cleaning composition for treating stains and for removing residue from object following clean-up after chemical or biological weapons attack comprises alcohol, bromide or chloride salt, chelator and dispersant dissolved in water.	2003	US2004110649-A1
	Decontamination system for personnel attacked by chemical and biological weapon, has sprinkler head supplied with water and controlled by valve responding to chemical sensor.	1999	US6296808-B1; EP1163030-A2; JP2002539903-W
	Detection of use of biological weapon involves detecting the properties of a monolayer film over an aqueous body using (a variety of) off-the-shelf instrumentation.	2002	US2003203424-A1
	Determination of early warning detection of bioterrorism event, comprises comparing individual's basal metabolic temperature to detection threshold value, and identifying reading surpassing detection threshold value.	2002	AU2003217680-A1; US2004116821-A1
	Determining the genetic affinity of organisms or viruses useful in bioterrorism, comprises determining which nodes in the bifurcating tree of genetic relationship that designs the signature probes produces the hybridization signal.	2001	AU2002245350-A1
	Early detection of infectious diseases or symptoms of bioterrorism attacks by producing statistical analysis of transmitted information based on geographic locations of individuals and comparison of transmitted information.	2002	US2003129578-A1; AU2002365240-A1
	Novel apparatus for detecting likely presence of viruses used as biological weapon has mass spectrometer and computer analysing atmospheric sample for material associated with cell culture of virus.	1998	US6183950-B2; AU200017035-A; US6183950-B1; GB2363197-B
	Portable containment system mitigates the effects of explosive chemical or biological weapons - and includes a ballistic protection material arranged within an inflatable air-beam suspension support structure.	1997	US5864767-A; AU9874909-A; EP991449-B1; DE69826279-E
	Portable digital LIDAR system for detecting biological weapon gas clouds has digital detection system with optical detectors to detect elastically back scattered and fluorescent signals from airborne agents in far field.	2001	US2002175294-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Producing biological-weapon-sensing fibrous-network product, useful for detecting biological weapons e.g., anthrax spores, by adding, mixing units of biological-weapon-sensing agent with suspension of fibers, forming fibrous-network product.	2002	AU2003301457-A1
	Pulmonary formulation useful for prevention or treatment of an individual exposed to biological weapons comprises diketopiperazine and a biologically active agent.	2002	US2004018152-A1; AU2003205226-A1
	Short/intermediate range laser defense against chemical and biological weapons.	1997	EP922926-A2; CA2255362-A1; JP3004979-B2; US6014922-A; KR99062964-A;
	Treating the effects of biological weapons, anthrax, smallpox virus or human monkeypox virus by using a rapid-acting, broad spectrum therapy.	2003	US2004018193-A1
Alemanha	Sensor to register air contamination by biological weapons has a particle sorting stage, a pyrolysis unit and a separator for sample identification, and a pyrolysis bypass for testing chemical weapons.	2002	DE10211655-A1
Grã-Bretanha	Disposal of explosively combustible device esp. unexploded bomb and also nuclear, chemical and biological weapons.	1998	GB2336804-A

Todos os depositantes apresentam freqüência igual a 1, o que pode ser observado na próxima tabela:

Tabela dos **depositantes** em Bioterrorismo.

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ALIBEK K; BAILEY C; CARRON E G; POPOV S G; WU A G; POPOVA T; KLOTZ F W; HAYFORD A; KARGINOV V; ZHAI Q; LIU G	Treating the effects of biological weapons, anthrax, smallpox virus or human monkeypox virus by using a rapid-acting, broad spectrum therapy.	2003	US2004018193-A1
BAUMGAERTNER M	Sensor to register air contamination by biological weapons has a particle sorting stage, a pyrolysis unit and a separator for sample identification, and a pyrolysis bypass for testing chemical weapons.	2002	DE10211655-A1
BIOALERT SYSTEMS INC	Determination of early warning detection of bioterrorism event, comprises comparing individual's basal metabolic temperature to detection threshold value, and identifying reading surpassing detection threshold value.	2002	AU2003217680-A1; US2004116821-A1
COLORADO SCHOOL MINES	Novel apparatus for detecting likely presence of viruses used as biological weapon has mass spectrometer and computer analysing atmospheric sample for material associated with cell culture of virus.	1998	US6183950-B2; AU200017035-A; US6183950-B1; GB2363197-B
FARWELL D; BAUMANN K	Producing biological-weapon-sensing fibrous-network product, useful for detecting biological weapons e.g., anthrax spores, by adding, mixing units of biological-weapon-sensing agent with suspension of fibers, forming fibrous-network product.	2002	AU2003301457-A1
HIPCO INC; WIENER S L; GROVE C	Biological defense mask for use by populations at risk of widespread biological attack via biological weapons of mass destruction, comprises air filter inlet mounted on face piece.	2001	US2004011363-A1; AU2002362132-A1; GB2399025-A
HONEYWELL INT INC	Decontamination system for personnel attacked by chemical and biological weapon, has sprinkler head supplied with water and controlled by valve responding to chemical sensor.	1999	EP1163030-A; US6296808-B1; EP1163030-A2; JP2002539903-W
JENEVEIN E	Cleaning composition for treating stains and for removing residue from object following clean-up after chemical or biological weapons attack comprises alcohol, bromide or chloride salt, chelator and dispersant dissolved in water.	2003	US2004110649-A1
MAULT J R; HEALTHETECH INC	Early detection of infectious diseases or symptoms of bioterrorism attacks by producing statistical analysis of transmitted information based on geographic locations of individuals and comparison of transmitted information.	2002	US2003129578-A1; AU2002365240-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
O'BRIEN R N	Detection of use of biological weapon involves detecting the properties of a monolayer film over an aqueous body using (a variety of) off-the-shelf instrumentation.	2002	US2003203424-A1
PARKES J H	Disposal of explosively combustible device esp. unexploded bomb and also nuclear, chemical and biological weapons.	1998	GB2336804-A
PHARM DISCOVERY CORP	Pulmonary formulation useful for prevention or treatment of an individual exposed to biological weapons comprises diketopiperazine and a biologically active agent.	2002	US2004018152-A1; AU2003205226-A1
SCI & ENG SERVICES INC	Portable digital LIDAR system for detecting biological weapon gas clouds has digital detection system with optical detectors to detect elastically back scattered and fluorescent signals from airborne agents in far field.	2001	US2002175294-A1
TECHNOLOGY LICENSING CO LLC	Determining the genetic affinity of organisms or viruses useful in bioterrorism, comprises determining which nodes in the bifurcating tree of genetic relationship that designs the signature probes produces the hybridization signal.	2001	AU2002245350-A1
TRW INC	Short/intermediate range laser defense against chemical and biological weapons.	1997	EP922926-A2; CA2255362-A1; JP3004979-B2; US6014922-A; KR99062964-A;
US SEC OF AIR FORCE	A compact intense radiation system provides an active defence against chemical and biological weapons - by combining explosive, plasmadynamic and neutron actions.	1997	US5835545-A
US SEC OF ARMY; US SEC OF AGRIC	Portable containment system mitigates the effects of explosive chemical or biological weapons - and includes a ballistic protection material arranged within an inflatable air-beam suspension support structure.	1997	US5864767-A; AU9874909-A; EP991449-B1; DE69826279-E

TERMOS

Dos três termos sugeridos (pelos especialistas) sob esse tema, apenas 1 foi objeto de patenteamento, Inteligência, com 2 patentes:

6.1 Inteligência

As 2 patentes focadas em bioterrorismo e inteligência, ambas dos Estados Unidos, são apresentadas a seguir:

Tabela do **país depositante** em Inteligência:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Decontamination unit for contaminated object e.g. letter, has housing to define interior sealable cavity accessible through door and electronic display to show temperature within cavity monitored by sensor over time to user.	2002	US2004028583-A1; AU2002368210-A1; EP1474609-A2
	Use of antimicrobial markers for assessing viability of a microorganism, assessing antimicrobial tolerance, resistance or susceptibility of a microorganism or detecting the presence or absence of a microorganism in a test sample.	2002	US2004110247-A1; AU2003260815-A1

Tabela dos **depositantes** em Inteligência:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
HEDMAN D E	Decontamination unit for contaminated object e.g. letter, has housing to define interior sealable cavity accessible through door and electronic display to show temperature within cavity monitored by sensor over time to user.	2002	US2004028583-A1; AU2002368210-A1; EP1474609-A2
UNIV LAUSANNE; MOREILLON P; QUE Y A; AELLEN S	Use of antimicrobial markers for assessing viability of a microorganism, assessing antimicrobial tolerance, resistance or susceptibility of a microorganism or detecting the presence or absence of a microorganism in a test sample.	2002	US2004110247-A1; AU2003260815-A1

7 Tema: Certificação de Qualidade Biológica

O tema certificação de qualidade biológica apresentou apenas uma patente focada indexada no período 1994-2004, depositada na Coréia.

Tabela do **país depositante** em Certificação:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Coréia	Analysis system for quality certification of origin of ginseng using marker.	2003	KR2004034354-A

Tabela do **depositante** em Certificação:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
BIOPIA	Analysis system for quality certification of origin of ginseng using marker.	2003	KR2004034354-A

TERMOS:

Dos três termos sugeridos deste tema, 2 foram objeto de patenteamento, conforme tabela a seguir:

TEMA	TERMOS	Nº de Patentes focadas
Certificação de Qualidade Biológica	Coleções certificadas	6
	Qualidade industrial	4

7.1 Coleções Certificadas

Para o termo “Coleções certificadas”, foram localizadas 6 patentes, sendo 4 dos Estados Unidos:

Tabela dos **países depositantes** em Coleções Certificadas:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Composition useful for identifying, verifying or authenticating any type of sample, comprises oligonucleotides incapable of specifically hybridizing to the sample and capable of hybridizing to a unique primer pair.	2003	US2004219533-A1
	Device for marking sample during collection - comprises collection vessel pre-loaded with marker, useful for, e.g. forensic, clinical, paternity or veterinary sample testing.	1996	AU9747386-A; EP938381-A1; JP2001510557-W; US6673621-B1
	Identifying a region within a genome of organism mediating gene expression, useful for determining mutation, comprises crossing 2 organisms, extracting RNA, quantifying gene expression and identifying quantitative trait loci.	2000	AU200176208-A; CZ200300146-A3; US2003180761-A1; HU200302058-A2; EP1366184-A2; BR200112707-A; CN1474875-A; JP2004512828-W
	New cytotherapeutic unit having a plurality of potent cells, useful in the palliation, amelioration or cure of cancer, Alzheimer's disease, hepatitis, Parkinson's disease and memory loss.	2002	US2004171147-A1; AU2003298775-A1
Rússia	Strain of bacterium Bacillus pantothenticus, useful for preparing granulated fodder.	2003	RU2235772-C1
	Strain paramyxovirus canis used for control of vaccine antigen activity, and preparing specific serum and antigen for diagnosis of paramyxoviral infection in dogs.	2000	RU2162893-C1

Os seis depositantes têm freqüência igual a um, sendo apresentados a seguir:

Tabela dos **depositantes** em Coleções Certificadas:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ANTHROGENESIS CORP; HARIRI R J	New cytotherapeutic unit having a plurality of potent cells, useful in the palliation, amelioration or cure of cancer, Alzheimer's disease, hepatitis, Parkinson's disease and memory loss.	2002	US2004171147-A1; AU2003298775-A1
BIOTROF CO LTD	Strain of bacterium Bacillus pantothenticus, useful for preparing granulated fodder.	2003	RU2235772-C1
CANADA DEPT AGRIC & AGRI-FOOD CANADA; DNA LANDMARKS INC; CANADA MIN AGRICULTURE; CASTONGUAY Y; O'DONOUGHUE L S; LABERGE S; MONROY A F; VEZINA L P	Identifying a region within a genome of organism mediating gene expression, useful for determining mutation, comprises crossing 2 organisms, extracting RNA, quantifying gene expression and identifying quantitative trait loci.	2000	AU200176208-A; CZ200300146-A3; US2003180761-A1; HU200302058-A2; EP1366184-A2; BR200112707-A; CN1474875-A; JP2004512828-W
DAVIS J; EGGERS M; IBARRA R; SADLER J; WONG D	Composition useful for identifying, verifying or authenticating any type of sample, comprises oligonucleotides incapable of specifically hybridizing to the sample and capable of hybridizing to a unique primer pair.	2003	US2004219533-A1
INTRONN LLC	Device for marking sample during collection - comprises collection vessel pre-loaded with marker, useful for, e.g. forensic, clinical, paternity or veterinary sample testing.	1996	AU9747386-A; EP938381-A1; JP2001510557-W; US6673621-B1
VETERINARY PREPARATIONS CONTROL RES INST	Strain paramyxovirus canis used for control of vaccine antigen activity, and preparing specific serum and antigen for diagnosis of paramyxoviral infection in dogs.	2000	RU2162893-C1

7.2 Qualidade Industrial

Das 4 patentes deste termo, 2 têm como país depositante os Estados Unidos:

Tabela dos **países depositantes** em Qualidade Industrial:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Detecting ribonuclease activity by incubating mixture of substrate having nucleic acid with cleavage domain, fluorescence reporter and quenching groups and sample, for cleavage of substrate, detecting fluorescence signal from mixture.	2001	US6773885-B1;
	Extraction of proteinase inhibitor e.g. potato proteinase inhibitor II from plant material by preparing an extraction solution of organic acid and salt in water, adding plant material to the solution and comminuting the plant material.	2001	US2003092152-A1; EP1414307-A1; AU2002310509-A1; JP2004531582-W
Finlândia	Syringe with microbe retentive distal surface on piston - for use as swab insertable into syringe barrel for rapid suspension of sample.	1994	AU9528890-A; JP10502808-W; US5846209-A; EP767831-B1; DE69526582-E; ES2176332-T3; CN1155902-A
França	New DD1-a and DD1-b genes of maize and their regulators, useful for specific control of transgene expression in the transfer zone of grain during development.	2000	FR2818286-A1; AU200223038-A

Os quatro depositantes em qualidade industrial apresentam freqüência um, sendo apresentados na tabela abaixo:

Tabela dos **depositantes** em Qualidade Industrial:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
HAKALEHTO E	Syringe with microbe retentive distal surface on piston - for use as swab insertable into syringe barrel for rapid suspension of sample.	1994	AU9528890-A; JP10502808-W; US5846209-A; EP767831-B1; DE69526582-E; ES2176332-T3; CN1155902-A
INRA INST NAT RECH AGRONOMIQUE; CENT NAT RECH SCI; ECOLE NORMALE SUPERIEURE DE LYON; UNIV LYON 1 BERNARD CLAUDE; CNRS CENT NAT RECH SCI; UNIV LYON 1 BERNARD CLAUDE UCBL	New DD1-a and DD1-b genes of maize and their regulators, useful for specific control of transgene expression in the transfer zone of grain during development.	2000	FR2818286-A1; AU200223038-A
INTEGRATED DNA TECHNOLOGIES INC	Detecting ribonuclease activity by incubating mixture of substrate having nucleic acid with cleavage domain, fluorescence reporter and quenching groups and sample, for cleavage of substrate, detecting fluorescence signal from mixture.	2001	US6773885-B1
KEMIN FOODS LC; AUSICH R; FALLERT H; MATHER G; DAVISON B; STOMP R; SHEABAR F Z; KEMIN CONSUMER CARE LC	Extraction of proteinase inhibitor e.g. potato proteinase inhibitor II from plant material by preparing an extraction solution of organic acid and salt in water, adding plant material to the solution and comminuting the plant material.	2001	US2003092152-A1; EP1414307-A1; AU2002310509-A1; JP2004531582-W

8 Tema: Defesa Agropecuária

O tema Defesa Agropecuária não apresentou patentes no período considerado, porém seus termos Normas de Qualidade e Sistemas Efetivos de Monitoramento são apresentados a seguir.

TEMA	TERMOS	Nº de Patentes com termo no Título
Defesa Agropecuária	Normas de qualidade	73
	Sistemas Efetivos de Monitoramento	5

8.1 Normas de qualidade

Foram encontradas 73 patentes focadas são focadas para este termo, sendo que, quanto aos países depositantes, os Estados Unidos são o principal destaque, com 6 patentes:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New nucleic acids encoding AINTEGUMENTA-like polypeptides useful in improving agronomic, horticultural, and quality traits of plants, such as increased size of plant organs.	2000	US2002170093-A1; EP1343904-A2; BR200116305-A; AU2002246719-A1
	New seed of wheat variety 25W41, useful for producing new, distinctive, and superior wheat varieties with desirable traits, e.g. resistance to diseases and insects and better agronomic qualities.	2004	US2004154050-A1
	New seed of wheat variety XW00D, useful for developing distinctive and superior wheat varieties having desired traits, e.g. male sterility, herbicide, insect and disease resistance, improved grain quality, and better agronomic qualities.	2004	US2004210969-A1
	New seed of wheat variety XW01G, useful for developing distinctive and superior wheat varieties having desired traits, e.g. male sterility, herbicide, insect and disease resistance, improved grain quality, and better agronomic qualities.	2004	US2004210970-A1
	New soybean cultivar for producing better agronomic quality, higher seed yield having resistance to diseases and insects.	1999	US6034303-A
	New soybean seed SY32157, useful in developing new, unique and superior soybean cultivars and hybrids which are resistant to diseases and insects, with better stems and roots and agronomic quality and tolerant to drought and heat.	2001	US6653534-B1

Nove depositantes têm 3 ou mais patentes, sendo apresentados na tabela abaixo:

Tabela dos top **depositantes** em Normas de Qualidade:

Depositante ou (Corporação)	Nº de Patentes
PIONEER HI-BRED INT INC	14
DEKALB GENETICS CORP	7
D & PL TECHNOLOGY HOLDING CO LLC	4
HOLDEN'S FOUND SEEDS LLC	3
CLARKSON R L; LASKAR W J; LIVELY K J; MARSHALL G C	3
MONSANTO	3

A Pioneer, líder com 14 patentes, não apresenta parcerias:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
PIONEER HI-BRED INT INC	Inbred maize line PH3KP useful for obtaining hybrid maize seeds with transgenes encoding resistance to insects and disease, tolerance to heat and drought, greater yield and better agronomic quality.	1999	US6124531-A
	New hybrid maize seed and plant 38P05, useful for developing inbred lines to produce hybrids that produce high grain yield and superior agronomic traits, e.g. grain quality, resistance to disease or better stay green score.	1998	US6075186-A
	New seed of hybrid maize variety 32B10, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172728-A1
	New seed of hybrid maize variety 32K22, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172725-A1
	New seed of hybrid maize variety 33N09, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172722-A1
	New seed of hybrid maize variety 33V62, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172724-A1
	New seed of hybrid maize variety 35D28, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172727-A1
	New seed of hybrid maize variety 37A91, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172726-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
PIONEER HI-BRED INT INC	New seed of hybrid maize variety 38B85, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172723-A1
	New seed of hybrid maize variety 39F59, useful for producing new and improved maize plants with desirable traits, e.g. male sterility, resistance to herbicide, insect, and disease, greater yield, and better agronomic quality.	2004	US2004172721-A1
	New seed of maize inbred line PH6JM, useful for developing new and distinctive hybrid maize lines with desired traits, e.g. male sterility, herbicide, insect and disease resistance, greater yield, and better agronomic qualities.	2001	US6809240-B1
	Novel inbred maize line PH2MW useful for obtaining hybrid maize seed with transgenes encoding resistance to insects and disease, tolerance to heat and drought, greater yield and better agronomic quality.	1999	US6124532-A
	Novel inbred maize line PH3GR useful for obtaining hybrid maize seed with transgenes encoding resistance to insects and disease, tolerance to heat and drought, greater yield and better agronomic quality.	1999	US6114613-A
	Soybean seed designated 92B74 useful for obtaining hybrid soybean seed with desired traits e.g. higher seed yield, resistance to diseases and insects, tolerance to drought and heat and better agronomic qualities.	1999	US6124526-A

A DEKALB GENETICS, com 7 patentes, também não apresenta parcerias em suas patentes:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DEKALB GENETICS	Inbred corn seed and corn plant, designated 87ATD2 useful for producing hybrid corn seeds and plants with excellent agronomic characteristics including disease resistance, higher yield and enhanced nutritional quality.	2000	US6355867-B1
	New seed of the corn variety I181664 useful for producing hybrid corn seeds and plants with excellent agronomic characteristics including disease resistance, higher yield and enhanced nutritional quality.	2001	US2002178470-A1
	New seed of the corn variety I244225, useful for producing new corn plants with desirable traits e.g. greater yield, resistance to insecticides, herbicides, pests, and disease, better agronomic quality, and higher nutritional value.	2002	US6812388-B1
	Novel corn seed and corn plant, designated I014738 useful for producing hybrid corn seeds and plants with excellent agronomic characteristics including disease resistance, higher yield and enhanced nutritional quality.	2001	US6444884-B1
	Novel inbred corn seed useful for corn plant breeding programs characterized by improved resistance to insects and bacterial, viral or fungal diseases and enhanced nutritional and agronomic qualities.	2000	US6225538-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DEKALB GENETICS	Novel seed of the corn variety I465837 useful for producing hybrid corn seeds and plants with excellent agronomic characteristics including disease resistance, higher yield and enhanced nutritional quality.	2001	US6459022-B1
	Seeds of novel inbred corn line, 01DHD16 are useful for producing hybrid corn plants with improved resistance to insects and bacterial, viral or fungal diseases and enhanced nutritional and agronomic qualities.	1999	US6096952-A

D & PL TECHNOLOGY também não tem parcerias em suas 4 patentes:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
D & PL TECHNOLOGY	New seed of cotton line 02X25R, useful for producing cotton cultivars with desired traits, e.g. male sterility, resistance to herbicide, insect and disease, higher fiber (lint) yield, improved fiber quality, and improved agronomic traits.	2004	US2004172720-A1
	New seed of cotton line 02X71R, useful for producing cotton cultivars with desired traits, e.g. male sterility, resistance to herbicide, insect and disease, higher fiber (lint) yield, improved fiber quality, and improved agronomic traits.	2004	US2004172718-A1
	New seed of cotton line 02Z55, useful for producing cotton cultivars with desired traits, e.g. male sterility, resistance to herbicide, insect and disease, higher fiber (lint) yield, improved fiber quality, and improved agronomic traits.	2004	US2004172717-A1
	New seed of cotton line 99x35, useful for producing cotton cultivars with desired traits, e.g. male sterility, resistance to herbicide, insect and disease, higher fiber (lint) yield, improved fiber quality and agronomic traits.	2004	US2004172715-A1

Quatro depositantes individuais têm, juntos, três patentes, conforme pode ser observado abaixo:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
MARSHALL G C; LASKAR W J; CLARKSON R L; LIVELY K J	New seed of wheat variety 25W41, useful for producing new, distinctive, and superior wheat varieties with desirable traits, e.g. resistance to diseases and insects and better agronomic qualities.	2004	US2004154050-A1
	New seed of wheat variety XW00D, useful for developing distinctive and superior wheat varieties having desired traits, e.g. male sterility, herbicide, insect and disease resistance, improved grain quality, and better agronomic qualities.	2004	US2004210969-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
MARSHALL G C; LASKAR W J; CLARKSON R L; LIVELY K J	New seed of wheat variety XW01G, useful for developing distinctive and superior wheat varieties having desired traits, e.g. male sterility, herbicide, insect and disease resistance, improved grain quality, and better agronomic qualities.	2004	US2004210970-A1

A empresa HOLDEN'S FOUND SEEDS é a quinta colocada no ranking, também com três patentes e sem parcerias:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
HOLDEN'S FOUND SEEDS	New seed of corn inbred line LH24, useful in developing new, unique and superior corn inbred lines and hybrids which are resistant to diseases and insects, tolerant to drought and heat and with better stalks and roots and agronomic quality.	2002	US2003221228-A1
	New seed of corn inbred line LH283bTmon810, useful in developing superior corn inbred lines and hybrids which are resistant to diseases and insects, tolerant to drought and heat and with better stalks and roots and agronomic quality.	2002	US2003221229-A1
	Seeds of novel inbred corn line, QH111 useful for producing hybrid corn plants with improved resistance to insects and bacterial, viral or fungal diseases, superior agronomic qualities and industrial uses.	1999	US6069303-A

Já a MONSANTO apresenta uma patente em parceria com depositantes individuais:

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
MONSANTO TECHNOLOGY LLC	New soybean seed SY32157, useful in developing new, unique and superior soybean cultivars and hybrids which are resistant to diseases and insects, with better stems and roots and agronomic quality and tolerant to drought and heat.	2001	US6653534-B1
MONSANTO TECHNOLOGY LLC; HE S S; DOTSON S B	New nucleic acids encoding AINTEGUMENTA-like polypeptides useful in improving agronomic, horticultural, and quality traits of plants, such as increased size of plant organs.	1999	US2002170093-A1; EP1343904-A2; BR200116305-A; AU2002246719-A1
MONSANTO CO	New soybean cultivar for producing better agronomic quality, higher seed yield having resistance to diseases and insects.	2000	US6034303-A

8.2 Sistemas Efetivos de Monitoramento

Foram encontradas 5 patentes focadas sobre este termo. Considerando os países depositantes, a liderança é norte-americana, com 3, seguidos de Alemanha e Japão, com 1 patente cada:

Tabela dos **países depositantes** em Sistemas Efetivos de Monitoramento:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New isolated green fluorescent protein polypeptide from Renilla reniformis and Renilla kollikeri, useful in the field of biotechnology research products and monitoring by remote sensing of agricultural and environmental acreage.	2002	US2003013849-A1
	New isolated polynucleotide conferring resistance to Bacillus thuringiensis, useful as probes to monitor the presence of acquired insect resistance associated with transgenic crops.	2001	US2003096983-A1; AU2002305051-A1
	Preparation of device having predetermined pattern on a plurality of analyte-binding molecules, useful for clinical and veterinary diagnostic analyte analysis, forensic analysis, food quality monitoring, agricultural monitoring.	1998	AU9965158-A
Alemanha	Monitoring and control process for biological sewage plant, useful for treating sewage of varying composition from industrial, agricultural, biological or communal source, uses neuronal network computer to generate control signals.	1999	DE10034645-A1
Japão	Simple, quick, cheap and safe method for decomposing halogenated substances e.g. dioxins and agrochemicals chemically, biologically and/or physically, easy to monitor e.g. by thin-layer chromatography.	1999	AU200114178-A; JP2001218866-A

Salienta-se que 4 das 5 patentes apresentam depositantes individuais, e a outra é de Universidade:

Tabela dos **depositantes** em Sistemas Efetivos de Monitoramento:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
KUKITA T	Simple, quick, cheap and safe method for decomposing halogenated substances e.g. dioxins and agrochemicals chemically, biologically and/or physically, easy to monitor e.g. by thin-layer chromatography.	1999	AU200114178-A; JP2001218866-A
MILLSTEIN L S	Preparation of device having predetermined pattern on a plurality of analyte-binding molecules, useful for clinical and veterinary diagnostic analyte analysis, forensic analysis, food quality monitoring, agricultural monitoring.	1998	AU9965158-A
UNIV CLEMSON; HECKEL D G; GAHAN L J	New isolated polynucleotide conferring resistance to Bacillus thuringiensis, useful as probes to monitor the presence of acquired insect resistance associated with transgenic crops.	2001	US2003096983-A1; AU2002305051-A1
WARD W W; THOMSON C	New isolated green fluorescent protein polypeptide from Renilla reniformis and Renilla kollikeri, useful in the field of biotechnology research products and monitoring by remote sensing of agricultural and environmental acreage.	2002	US2003013849-A1
WILDENAUER F	Monitoring and control process for biological sewage plant, useful for treating sewage of varying composition from industrial, agricultural, biological or communal source, uses neuronal network computer to generate control signals.	1999	DE10034645-A1

9 Tema: Farmacogenética

O tema farmacogenética apresentou 17 patentes focadas no período de 1994 a 2004, sendo que os Estados Unidos lideram em número de depósitos:

Tabela dos **países depositantes** em Farmacogenética:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Assaying a sample for a target polynucleotide or an amplification product using an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful in pharmacogenetic testing and forensics.	2000	AU200150937-A; US2004171039-A1
	Assessing if a subject is afflicted with type I diabetes or an NKT-associated condition, useful in diagnostic assays, prognostic assays or pharmacogenetics, by determining expression levels of markers associated with the disease.	2000	AU200175346-A; US2002039736-A1; EP1290227-A1; JP2004510411-W
	Detecting a polymorphism in an organic anion transporting polypeptide B gene (OATPB), for assessing the pharmacogenetics of a drug transportable by OATPB, comprises determining the sequence at one or more positions.	2001	EP1395680-A2; AU2002256786-A1; US2004171010-A1
	Detecting polymorphism in human sodium independent organic anion transporting polypeptide (OATP) 8 gene for accessing pharmacogenetics of drug transportable by OATP8.	2002	AU2003241042-A1
	Detecting polynucleotides, for pharmacogenetic testing, comprises contacting a target polynucleotide with a complementary single-stranded sensor polynucleotide and an agent that allows the sensor to fluoresce upon excitation.	2001	AU2002303387-A1
	Detecting the presence or absence of a first nucleotide at position within a strand of DNA, useful in gene typing, genotyping, disease diagnostics, prenatal testing, paternal determination, pharmacogenetics and forensic analysis.	2002	US2002142336-A1
	Diagnosing and analyzing a biological sample for detecting infectious bacterial or viral diseases and pharmacogenetic determinations, by utilizing an apparatus comprising a substrate having an assay station.	2002	US2003138819-A1; AU2002339833-A1; EP1461454-A2
	Diagnosing polymorphism in SLC10A2 in a human for assessing the pharmacogenetics of a drug for treating cardiovascular and hyperlipidemic conditions, by determining the status of the human by reference to polymorphism in SLC10A2.	2001	EP1402061-A2; AU2002251269-A1; US2004171004-A1
	Encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful when assaying a sample for a target polynucleotide and therefore in pharmacogenetic testing and forensics.	2000	AU200149386-A; EP1276904-A1; US2003165951-A1; JP2004500109-W
	New 33217 nucleic acid molecule useful for preventing or treating 33217-mediated or -related diseases, e.g. cancer, hyperlipidemia, atherosclerosis, also in screening assays, predictive medicine or pharmacogenetics.	2001	US2002173630-A1; EP1358324-A2; AU2002246591-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New 39362 polypeptide and nucleic acid molecule, useful for detecting, preventing or treating 39362-mediated or -related diseases, e.g. atherosclerosis, cancer, and in screening assays, in predictive medicine or pharmacogenetics.	2001	US2003096305-A1; AU2002246947-A1
	New ABCA10 transporter nucleic acid molecules and polypeptides, useful in screening assays or in predictive medicine, e.g. diagnostic assays, prognostic assays, monitoring clinical trials or pharmacogenetics.	2001	AU2002344853-A1
	New library of fusion nucleic acids each encoding a Rep protein recognized by a nucleic acid modification enzyme and a candidate protein, useful for detecting protein-protein interactions, protein drug discovery or pharmacogenetics.	2000	AU200067925-A; EP1212411-A2; KR2002059370-A; CN1378593-A; JP2003507063-W
	New library of prokaryotic pET-24a expression vectors, host cells or nucleic acid/protein conjugates, useful for screening candidate proteins and their nucleic acids or modification enzymes for pharmacogenetic analysis.	2000	US2003124537-A1; AU2002255451-A1
	Pharmacogenetic stratification of clinical drug trial patients by identifying genotype and phenotype association and separating patients into responders and non-responders is useful in new drug design.	2000	US2001049586-A1; AU200151332-A; EP1303636-A1; US2004039554-A1; JP2004513609-W
	Sample preparation integrated chip for detecting and diagnosing diseases, and for pharmacogenetic determinations, includes substrate having assay station(s), multipurpose channels, sample fluid inlet(s), and isolation-medium inlet(s).	2002	US2003138941-A1; EP1440168-A2; AU2002363024-A1
Grã-Bretanha	New polymorphisms in the human P2X7 gene, useful e.g. in pharmacogenetics analysis and drug design.	2001	EP1199372-A2; JP2002330787-A; GB2372564-B; US2004137503-A1

As patentes por depositantes são apresentadas a seguir:

Tabela dos **depositantes** em Farmacogenética:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ASTRAZENECA AB	Detecting polymorphism in human sodium independent organic anion transporting polypeptide (OATP) 8 gene for accessing pharmacogenetics of drug transportable by OATP8.	2002	AU2003241042-A1
	Detecting a polymorphism in an organic anion transporting polypeptide B gene (OATPB), for assessing the pharmacogenetics of a drug transportable by OATPB, comprises determining the sequence at one or more positions.	2001	EP1395680-A2; AU2002256786-A1; US2004171010-A1
	Diagnosing polymorphism in SLC10A2 in a human for assessing the pharmacogenetics of a drug for treating cardiovascular and hyperlipidemic conditions, by determining the status of the human by reference to polymorphism in SLC10A2.	2001	EP1402061-A2; AU2002251269-A1; US2004171004-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ASTRAZENECA AB; MORTEN J E N	New polymorphisms in the human P2X7 gene, useful e.g. in pharmacogenetics analysis and drug design.	2001	EP1199372-A2; JP2002330787-A; GB2372564-B; US2004137503-A1
QUANTUM DOT CORP	Assaying a sample for a target polynucleotide or an amplification product using an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful in pharmacogenetic testing and forensics.	2000	AU200150937-A; US2004171039-A1;
	Encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful when assaying a sample for a target polynucleotide and therefore in pharmacogenetic testing and forensics.	2000	AU200149386-A; EP1276904-A1; US2003165951-A1; JP2004500109-W
MILLENNIUM PHARM INC; MEYERS R E; BANDARU R; GLUCKSMANN M A; CURTIS R A J; KAPELLER-LIBERMANN R; LEIBY K R	New 39362 polypeptide and nucleic acid molecule, useful for detecting, preventing or treating 39362-mediated or -related diseases, e.g. atherosclerosis, cancer, and in screening assays, in predictive medicine or pharmacogenetics.	2001	US2003096305-A1; AU2002246947-A1
MILLENNIUM PHARM INC; MEYERS R E; TSAI F	New 33217 nucleic acid molecule useful for preventing or treating 33217-mediated or -related diseases, e.g. cancer, hyperlipidemia, atherosclerosis, also in screening assays, predictive medicine or pharmacogenetics.	2001	US2002173630-A1; EP1358324-A2; AU2002246591-A1
NTU VENTURES PTE LTD; DEFENCE SCI & TECHNOLOGY AGENCY; GONG H; YAP E P H; DSO NAT LAB; AYI T C	Diagnosing and analyzing a biological sample for detecting infectious bacterial or viral diseases and pharmacogenetic determinations, by utilizing an apparatus comprising a substrate having an assay station.	2002	US2003138819-A1; AU2002339833-A1; EP1461454-A2
NTU VENTURES PTE LTD; DEFENCE SCI & TECHNOLOGY AGENCY; GONG H; YAP E P H; DSO NAT LAB; CHEN L	Sample preparation integrated chip for detecting and diagnosing diseases, and for pharmacogenetic determinations, includes substrate having assay station(s), multipurpose channels, sample fluid inlet(s), and isolation-medium inlet(s).	2002	US2003138941-A1; EP1440168-A2; AU2002363024-A1
ACTIVE PASS PHARM INC	New ABCA10 transporter nucleic acid molecules and polypeptides, useful in screening assays or in predictive medicine, e.g. diagnostic assays, prognostic assays, monitoring clinical trials or pharmacogenetics.	2001	AU2002344853-A1
GENETICS INST INC; GEN HOSPITAL CORP; BYRNE M C; HILL A A; WILSON S B; GENETICS INST LLC	Assessing if a subject is afflicted with type I diabetes or an NKT-associated condition, useful in diagnostic assays, prognostic assays or pharmacogenetics, by determining expression levels of markers associated with the disease.	2000	AU200175346-A; US2002039736-A1; EP1290227-A1; JP2004510411-W
GENOME THERAPEUTICS CORP	Detecting the presence or absence of a first nucleotide at position within a strand of DNA, useful in gene typing, genotyping, disease diagnostics, prenatal testing, paternal determination, pharmacogenetics and forensic analysis.	2002	US2002142336-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
GLAXO GROUP LTD; ROSES A D	Pharmacogenetic stratification of clinical drug trial patients by identifying genotype and phenotype association and separating patients into responders and non-responders is useful in new drug design.	2000	AU200151332-A; EP1303636-A1; US2004039554-A1; JP2004513609-W
UNIV CALIFORNIA; CHA J N	Detecting polynucleotides, for pharmacogenetic testing, comprises contacting a target polynucleotide with a complementary single-stranded sensor polynucleotide and an agent that allows the sensor to fluoresce upon excitation.	2001	AU2002303387-A1
UNIV JOHNS HOPKINS SCHOOL MEDICINE	New library of fusion nucleic acids each encoding a Rep protein recognized by a nucleic acid modification enzyme and a candidate protein, useful for detecting protein-protein interactions, protein drug discovery or pharmacogenetics.	2000	AU200067925-A; EP1212411-A2; KR2002059370-A; CN1378593-A; JP2003507063-W
XENCOR INC; LIU Y; LI M	New library of prokaryotic pET-24a expression vectors, host cells or nucleic acid/protein conjugates, useful for screening candidate proteins and their nucleic acids or modification enzymes for pharmacogenetic analysis.	2000	US2003124537-A1; AU2002255451-A1

Salienta-se que os termos sobre farmacogenética não foram objeto de patenteamento.

10 Tema: Fertilidade e Reprodução Animal

O tema Fertilidade e Reprodução Animal não apresentou patentes, porém seu termo Clonagem tem 23 patentes focadas, conforme tabela a seguir.

TEMA	TERMO	Nº de patentes focadas
Fertilidade e reprodução animal	Clonagem	23

10.1 Clonagem

Das 23 patentes do termo “Clonagem”, a liderança é dos Estados Unidos, com 10 patentes:

País Depositante	Nº de Patentes
EUA	10
China	5
Japão	3
Austrália	1
Alemanha	1
Itália	1
França	1
Nova Zelândia	1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Cloning an animal by nuclear transfer comprising the insertion of a somatic cell which has undergone 5 cell culture passages into an enucleated oocyte.	2000	US2001037513-A1; AU200127664-A; EP1254210-A2; JP2003518936-W; CN1461339-A
	Cloning animal involves dissociating blastomeres from embryos which are transferred to empty zonae, cultured to embryonic stage, transferring embryos to oviducts of surrogate females, and producing cloned animal.	2000	AU200129275-A; EP1248517-A2; US2003106082-A1; JP2003533976-W
	Cloning animal with cell at G1-phase of cell cycle comprises culturing animal cells to confluence, introducing cells/genome of cells into enucleated oocyte to obtain reconstructed embryos and developing embryo to obtain animal.	2000	AU200215721-A; US2004064845-A1
	Cloning animals by inserting nucleus from adult somatic cells into enucleated oocyte, particularly for producing transgenic animals.	1998	AU9922377-A; BR9907193-A; EP1049372-A2; KR2001040370-A; CN1306390-A; JP2002500864-W; US2002019993-A1; NZ505728-A;
EUA	Cloning system for duplicating animals with desired carcass traits comprises two cycles where a donor of the first cycle is an adult fibroblast cell and the second is a fetal fibroblast obtained from a fetus from the first cloning.	2000	AU200178204-A; US2003172394-A1

	Inducing homologous recombination in bacterial and eukaryotic cells comprising target nucleic acid, for cloning and generating transgenic animals, comprises utilizing lambda recombinases and similar proteins.	2001	AU200183377-A; EP1311661-A2; US2004092016-A1
	Methods for cloning and creating transgenic animals, useful for production of desired proteins comprises combining activated donor cell genome with activated enucleated oocyte.	1999	EP1127112-A2; JP2003523719-W; US6781030-B1
	Nucleus transfer array, useful for large scale animal cloning, comprises upper chamber for enucleation and lower chamber that holds nuclei for transfer.	1999	AU200075789-A; US6383813-B1; EP1254215-A1
	Producing a non-human animal with a monoclonal or oligoclonal peripheral B cell or T cell receptor repertoire, useful for producing cells and antibodies for treating cancer or viral diseases, comprises cloning by nuclear transfer.	2002	US2003217374-A1; AU2003235652-A1
	Transferring an immune response from a founder animal to a cloned mammal comprises immunizing a founder animal with an immunogen, cloning the founder animal, and obtaining lymphocytes from the immunized founder mammal.	2003	US2004177395-A1
China	Constructing cloned mammalian embryo by nuclear transfer, applicable in breeding fine varieties of animals, preserving almost extinct animals and therapeutic cloning in treatment of human diseases.	2001	CN1379977-A; AU2002254839-A1; CN1503623-A
	Human testis development specific protein-17 encoding gene (NYD-SP17), useful for cloning a fusion protein which is useful for immunizing an animal to prepare mono or poly-clonal antibodies, and for preparing gene expression chips.	2001	CN1382694-A
	In situ cancer cell cloning animal test research method.	2003	CN1425764-A
	Method for cloning human embryonic stem cell without animal component.	2002	CN1483817-A
	Refractor 6-phosphoglucose isomerase gene, its encoded polypeptide and recombinant production, comprising cloning the gene from a thermophilic anaerobic bacterium, expressing in a microbe, animal or plant, and purification.	2002	CN1390943-A
Japão	Cloning non-human animal especially pig, comprises transplanting somatic cell nucleus of a donor pig into enucleated ovum collected from recipient pig in the presence of embedding agents such as alginate.	2000	JP2002125516-A
	Novel mammalian pluripotent embryonic stem cell for cloning animals, is capable of proliferating continuously in undifferentiated condition, and expresses glycosylated SSEA-1 antigen and transcription factor Oct3/4.	2000	JP2002176973-A
	Somatic cell cloning for transgenic animal production, involves introducing metaphase stage nucleus into fertilized anucleated sheep egg.	1999	JP2000228929-A

Já com relação aos depositantes, o que mais se destaca é a empresa New England Labs, com 17 patentes, mostradas a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
NEW ENGLAND BIOLABS INC	Cloning and expressing an endonuclease gene by comprising two plasmid system.	1999	US6048719-A
	Cloning and expressing SgrAI endonuclease gene by using cross-protective gene MspI methylase.	1998	US6048731-A
	Cloning intact genes used to isolate genes for restriction enzymes.	1998	EP1086244-A1; JP2002517260-W
	Cloning Thermus species (Ts) plasmid genes comprises transforming Escherichia coli with cloned recombinant plasmid containing Ts and E.coli origins of replication, isolating cloned recombinant plasmid from E.coli and transforming Ts cell.	1998	US6207377-B1
	Direct cloning of nuclease genes - using a host cell containing a DNA damage-inducing promoter fused to an indicator/reporter gene.	1994	US5498535-A; JP10500853-W; DE69532725-E; EP1431388-A2
	DNA encoding BssHII restriction and methylase enzymes - useful for molecular cloning and recombinant production of the enzymes.	1997	US5786195-A;; JP10313883-A; EP885964-B1; DE69814526-E
	DNA encoding restriction endonuclease FseI - useful in DNA manipulation, also new method for cloning endonuclease and associated methylase.	1994	US5543308-A; JP8224088-A; EP712933-B1; DE69533434-E
	New BsrFI restriction endonuclease and BsrFI methylase genes from Bacillus stearothermophilus, useful as tools for creating recombinant molecules, especially for molecular cloning and gene characterization.	1999	US6066487-A
	New DNA coding for the AsiSI restriction endonuclease or AsiSI methylase, useful for cleaving DNA molecules into small fragments for molecular cloning and gene characterization.	2001	US2003104388-A1;
	New DNA segment coding for the BsmBI restriction endonuclease and/or BsmBI methylase, useful for molecular cloning and gene characterization, and in producing restriction endonucleases and modification methylases.	2001	EP1298212-A2; US2003100052-A1; JP2003230390-A; US6764843-B2
	New isolated DNA encoding BsrGI restriction endonuclease and BsrGI methylase, obtainable from Bacillus stearothermophilus GR75, useful for cleaving DNA molecules into small fragments for molecular cloning/gene characterization.	2003	WO2004063328-A2
	New isolated thermostable DNA polymerase - obtd. from isolate 9 deg. N-7, useful for amplifying, detecting and/or cloning nucleic acid sequences.	1994	JP8168376-A; US5756334-A; EP701000-B1; DE69519968-E
NEW ENGLAND BIOLABS INC	New method for cloning and producing the SwaI restriction endonuclease from Staphylococcus warneri which can be produced in abundance from Eschericia coli.	1999	EP1048731-A2; JP2000316589-A; US6245545-B1
	New RsaI restriction endonucleases obtained from Rhodopseudomonas sphaeroides, useful in cleaving DNA molecules into fragments for molecular cloning and gene characterization, or as useful tools for manipulating DNAs.	2000	EP1164189-A; US6210945-B1; EP1164189-A1; JP2002306181-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New thermostable DNA polymerase I obtainable from Rhodothermus obamensis (JCM 9785), useful in amplifying, detecting and/or cloning nucleic acid sequences.	2002	US2003165890-A1
	Vector for use in cloning or in-vitro transcription - with polylinker flanked by opposing promoters having restriction sites.	1995	US5691140-A
INVITROGEN CORP	Integration sequence containing at least one recombination site, useful for in vitro or in vivo manipulation, e.g. cloning or sequencing, of nucleic acid.	1999	AU200114378-A; EP1224304-A1; JP2003512075-W; CN1399684-A; NZ518503-A
	Methods for apposing nucleic acids comprising an expression signal and a gene/partial gene, using recombinatorial cloning by incubating the nucleic acids in the presence of a recombination protein under conditions for recombination.	1999	US6270969-B1
	New composition comprises at least two isolated recombination proteins, at least one first nucleic acid molecule, and at least one second nucleic acid molecule, useful for recombinational cloning of DNA segments.	2004	US2004219673-A1
	New composition for recombinational cloning of nucleic acid molecules, comprises at least one recombination protein and at least one Fis protein or its fragment.	2001	US2003077804-A1; EP1390394-A2; AU2002258868-A1; JP2004531259-W
	New isolated nucleic acid molecule comprises one or more recombination sites and one or more topoisomerase recognition sites and/or one or more topoisomerases, useful in recombinational cloning.	2001	AU200227153-A; EP1349917-A1; CN1489627-A; JP2004522428-W; NZ526194-A
	New isolated nucleic acid molecule comprising all or a portion of at least two Ter sites, useful for molecular biology applications, e.g. cloning, selecting or purifying a nucleic acid of interest or producing single-stranded DNA.	2002	AU2003257109-A1
	New isolated nucleic acid molecules having one or more recombination sites and encoding an amino acid sequence tag, useful for recombinational and/or topoisomerase-mediated cloning methods for producing fusion proteins.	2002	US2004132133-A1; AU2003251797-A1
INVITROGEN CORP; LIFE TECHNOLOGIES INC	Composition for use in cloning or subcloning one or more desired nucleic acid molecules comprises comprising at least one ribosomal protein and at least one recombination protein.	1998	AU200017216-A; EP1131078-A1; US2003157662-A1
	Isolated nucleic acid molecules encoding an attB1, attB2, attP1, attP2, attL1, attL2, attR1, and attR2 nucleotide sequence useful for the recombinational cloning of polypeptides.	1999	AU200036143-A; EP1173460-A1; JP2002537790-W; NZ525134-A; AU774643-B2
INVITROGEN CORP; LIFE TECHNOLOGIES INC	New toxic gene resistant Escherichia coli cells having mutations in their gyrase A and endA genes, useful for amplifying and cloning recombinant genetic constructs and for cloning and propagating toxic genes that act upon DNA gyrase.	1999	AU200033875-A; EP1159402-A1; JP2002537800-W; US2004053412-A1
INVITROGEN CORP; SLOAN KETTERING INST CANCER RES	Use of topoisomerase enzymes - for covalently joining a DNA strand to an RNA strand, used particularly for isolating and cloning full-length gene sequences.	1997	JP2001507241-W; US2004058417-A1; AU2002300348-A9; EP920526-B1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
LIFE TECHNOLOGIES INC	Bacterium containing F' episome material to increase transformation efficiency - particularly Escherichia coli, for generation of cDNA libraries or cloning.	1997	AU9722575-A; EP877794-A1; JP2002502232-W; US2004152184-A1
	Cloning of nucleic acid molecules - by treating amplified or synthesised nucleic acids with a polymerase inhibitor prior to ligation into a vector.	1997	AU9889099-A; US6140086-A
	DNA and vectors comprising engineered cloning sites - useful for recombinational cloning.	1996	US5888732-A
	In vitro cloning of nucleic acid involves mixing vectors comprising recombination sites and/or nucleic acid, incubating mixture to produce chimeric molecule, contacting hosts with mixture and selecting host.	1998	US6171861-B2
	New nucleic acid cloning methods.	1998	AU9911995-A; EP1025217-A1; CN1280614-A; JP2002500861-W; NZ504214-A; US2004171156-A1
	Nucleic acid comprising toxic gene linked to regulatory regions that include a cloning site - for DNA insertion, resulting in inactivation of the toxin gene, allowing positive selection for transformants, also related vectors and enzyme composition for th	1997	WO9838205-A1
LIFE TECHNOLOGIES INC;INVITROGEN CORP	Composition for use in cloning or subcloning one or more desired nucleic acid molecules comprises comprising at least one ribosomal protein and at least one recombination protein.	1998	AU200017216-A; EP1131078-A1; US2003157662-A1
	Isolated nucleic acid molecules encoding an attB1, attB2, attP1, attP2, attL1, attL2, attR1, and attR2 nucleotide sequence useful for the recombinational cloning of polypeptides.	1999	AU200036143-A; EP1173460-A1; JP2002537790-W; NZ525134-A;
	New toxic gene resistant Escherichia coli cells having mutations in their gyrase A and endA genes, useful for amplifying and cloning recombinant genetic constructs and for cloning and propagating toxic genes that act upon DNA gyrase.	1999	AU200033875-A; EP1159402-A1; JP2002537800-W; US2004053412-A1
LIFE TECHNOLOGIES INC; TRINH T Q; GRUBER C E	Synthesis of nucleic acids, for the cloning, amplification and sequencing of nucleic acids.	1998	US2002064837-A1

11 Tema: Integração: alimentação, nutrição e saúde.

Foram encontradas 146 patentes focadas sobre este tema, sendo que o Japão é líder, com 79 patentes, conforme tabela abaixo:

Tabela dos **top países depositantes** em Integração alimentação, nutrição e saúde:

País Depositante	Nº de Patentes
Japão	79
China	50
EUA	9
Coréia	5

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	An additive composed of an oligosaccharide - for use in nutrients or healthy foods to condition the intestines.	1997	JP11075772-A
	Antioxidant and immune enhancing beverage for health foods and nutritive supplements, comprises tea leaves, herb and spice extract, and hawthorn fruit juice or puree.	1999	JP2001145474-A
	Automatic measurement display device for showing e.g. amount of nutrition ingestion, foodstuff selection, health maintenance - has PHS module which transmits predetermined data regarding individual nutrition and calorie computed by CPU with reference to n	1997	JP11142223-A
	Blood pressure elevation inhibiting substance useful in health foods and nutritive supplements such as processed grain foods, fruit drinks and Chinese dumplings, comprising soluble silicon compound.	2002	JP2004161730-A
	Buckwheat noodles for use as health food containing nutritive components such as rutin, thiamine and tryptophan, contains green-juice of stalk and leaves.	2000	JP2001299254-A
	Chocolate useful as nutrient healthy foodstuff with delicious taste, contains de-greased soybean milk powder.	2000	JP2002191291-A
	Composition for improvement of lipid metabolism composed of extracts of corn silk of Zea mays and mycelia of Cordyceps used as foods for health maintenance and nutritional supplement.	2000	JP2002114701-A
	Composition having lactagogue activity useful in health/nutritional/supplement foods for improving lactation, contains carbamoyl derivative as main ingredient.	2002	JP2003321356-A
	Composition of cooked nutritive additive for use as health food, contains nutrient components rich-natural raw material of cereals e.g. spiral/green alga and garlic, mixed to powder or granule form, added to rice and cooked.	2002	JP2003310184-A
	Composition of health food for building body nutrition - contains seaweeds and raw glue plant mixed with raw shiitake mushroom, green tea, sesame seed and soybeans.	1998	JP2000004847-A
	Cultivation of amino acid enriched Ganoderma lucidum, useful as health/nutritive food, for improving liver function, involves blending raw material containing numerous amino acids with culture medium, and cultivating mushrooms.	2002	JP2004180660-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Diglycosidase-based production of aglycone particularly aglycone isoflavone without changes to inherent physical properties of active substances, useful in making processed foods, health foods, nutrition supplements and drugs.	2000	AU200144631-A; EP1270735-A1; JP2001570817-X; KR2003036150-A; US2003194469-A1
	Dispersion liquid composition for filling in capsule, comprises nutritional supplement and health food composition and oil-insoluble component, and L-ascorbic acid fatty acid ester, dispersed in oil-based dispersion medium.	2003	JP3559277-B1
	Dried crustacean shell food - has high nutritional value, promoting good health.	1994	JP8168359-A; CA2179222-A
	Dry powder for use in drinking water, health food, nutritive supplement food, health supplement food, quasi-drug and pharmaceuticals, contains spray dried extract of seed, placenta and septum of green pepper.	2000	JP2001269131-A
	Egg product with improved quality useful as health/nutritional food, is obtained by heat-solidifying egg liquid in presence of preset amount of dihydrogen sodium pyrophosphate and sodium carbonate.	2001	JP2003180296-A
	Food supply management method for nursing care patient support system, involves calculating actual nutrient ingestion amount using personal health care information based on which delivery foodstuff amount is specified.	2002	JP2003207260-A
	Foodstuff composition useful as nutritive/health food and pharmaceuticals for preventing and treating inflammatory bowel disease and colon cancer, contains specific amount of D-mannitol or D-sorbitol as active ingredient.	2002	JP2004049093-A
	Foodstuffs for nutrient component reinforcement useful as health food for sick person, consists of unhulled rice powder and rice bran.	2003	JP2004222645-A
	Foodstuffs for pets to maintain health, contains foodstuff material which does not exert influence on pet ingestion nutritional balance.	2001	JP2003000156-A
	Foodstuffs purchase support system provides information about foodstuffs that satisfies consumer's nutrients requirement and quantity of food to be consumed based on acquired consumer health information.	2001	JP2002288350-A
	Fortified Japanese noodles - includes one or more sorts of healthy nutritive food powder comprising vegetable, seaweed, cereals powders.	1996	JP10080254-A
	Functional sauce useful as health/nutritional food for preventing and treating life-style related diseases e.g. hypercholesterolemia and congestive cardiac disease, comprises ubiquinone as main ingredient.	2002	JP2004041161-A
	Germinated seed powder as health/nutritional food, is obtained by drying and grinding seed powders e.g. rice and wheat without modifying functional components e.g. ferulic acid, phytic acid, inositol phosphate and polyphenol.	2002	JP2003334012-A
	Health consultation support system transmits nutrition analytical data received from dietitian with respect to image of foodstuffs to health counselor.	2001	JP2003030335-A
	Health food and drink useful for providing nutrition for quick energy uptake for e.g. athletes comprises cluster dextrin and/or cyclo amylose.	1998	JP2000083621-A
	Health food comprises intracellular mineral containing microorganisms as nutrition supplements.	1998	JP2000125811-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Health food contg. dried powdered wood ear - to supply nutrients and feeling of fullness when taken before meals.	1996	CA2182333-A; JP11113523-A; EP761105-B1; DE69620837-E
	Health food for facilitating digestion - obtd. by freezing grated sesame contg. sesame oil, pulverising, mixing with sesame oil, adding nutritious material, etc..	1994	JP8038116-A
	Health food for maintaining nutritional balance, comprises paste of vegetables and fruits, dried fishes and herbs.	1998	JP2000157208-A
	Health food sales method for turmeric processed food, involves packaging nutrient food in bottles just like packing alcohol.	2002	JP2003316875-A
	Health food used as a nutritional supplement food, consists of liver oil extracted from man as a main component, fat and oil and antioxidant, and is packed in packaging material.	2000	JP2002125618-A
	Health food used as auxiliary nutrition foodstuffs, especially for aged, contains sake lees along with mixture of powder of vitamins A, C and E.	2000	JP2002034509-A
	Health food useful as nutritive supplement for preventing and treating blotches/freckles, hypertension, obesity and constipation, contains fresh leaves, ground material or extract of Coix lachryma as active ingredient.	2003	JP2004283112-A
	Health food with good nutrition and medical effect - by kneading powder of leaves, stems or roots of Ashitaba and oil contg. docosa-hexa:enic acid and enclosing in capsule.	1994	JP8023912-A
	Health food/beverage products useful as nutritional drink for preventing and treating obesity, hypertension, amnesia and hyperlipidemia, contains sake lees and rice koji as main ingredients.	2003	JP2004261119-A
	Health management system for managing health of family at home - has controller which obtains momentum required to maintain healthy life and amount of ingested food according to nutrition value of food taken in.	1996	JP10074226-A
	Healthcare support equipment generates counseling information including foodstuff information for nutrient deficient person/dieting and exercise information for healthy person, based on received user information.	2002	JP2003308395-A
	Healthy nutritional foods. - composed of horse fat and nutrient, e.g. garlic.	1996	JP9238615-A
	High nutritional buckwheat and natto as health food is prepared by mixing buckwheat and yam with cooked rice and steamed soy bean and inoculating with Bacillus natto.	2001	JP2002291436-A
	Internally administered liquid agent capsule for internal use agent such as nutritive/medical agent and health food for preventing health problem, comprises film breaking unit.	1999	JP2001122770-A
	Low cholesterol mayonnaise useful as health and nutritive food, contains edible plant fats-and-oils extraction egg yolk added to mayonnaise prepared by emulsifying oil phase and aqueous phase.	2002	JP2003310207-A
	Low cholesterol mayonnaise useful as health/nutritive food, is formed by emulsifying oil phase and water phase using granule fraction and plasma fraction isolated from lyophilized egg yolk as emulsifier.	2001	JP2003079338-A
	Low molecular function fortified lecithin as nutrients in health food, is obtained by fusion of lecithin composite and functional substance by enzyme catalyst.	2000	JP2002167392-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Manufacture of fermented egg useful as health/nutritional food involves mixing egg-white portion and egg yolk portion within eggshell homogeneously, planting/applying microbes to mixture followed by fermenting.	2001	JP2003189824-A
	Mushroom content nutrient material for use as health promoting food or medical agent - contains extracts of edible oyster mushroom, agaricus mushroom and reishi.	1997	JP11155519-A
	Nutrient enriched rice useful as health food, is obtained by adding liquid containing nutrient to rice polishing and storing.	2003	JP2004275082-A
	Nutrition balanced food providing system for supermarket, has management apparatus that stores menu comprising information regarding calorie and nutrient-component related to each customer, based on customer's health state.	2002	JP2003256577-A
	Nutrition management system for internet-based healthcare services, stores nutrition management information corresponding to arbitrary foodstuffs chosen by user.	2001	JP2002324134-A
	Nutrition supplement food for maintaining health - consists of coral particles and branched chain amino acids.	1998	JP2000023635-A
	Nutritious meat-based health food, promoting growth - consists of minced cattle, fish or poultry mixed with minced internal organs of cattle.	1994	JP8173101-A
	Nutritive food useful as health food, comprises phosphorylized isoflavone derivative obtained by phosphorylizing isoflavone/isoflavone containing material with microbes derived from phosphorylation enzyme, followed by oxidizing.	2002	JP2004024139-A
	Nutritive liquid health food - contains ethanol, oligosaccharide and propolis.	1997	JP11187845-A
	Nutritive supplement food useful as health food for preventing and treating diabetes and infectious disease caused by Helicobacter pylori, contains mixture of Morinda citifolia fruit juice/extract and honey.	2003	JP2004229575-A
	Oral composition containing, used in healthy and nutritional foods, contain ingredient of phospholipid derived from milk of mammals.	2000	JP2001275614-A
	Oral formulation for use as pharmaceutical and health/nutritional food, comprises oxidation type coenzyme Q and reduced type coenzyme Q as active ingredients.	2001	JP2003119127-A
	Oral nutrient supplement agent for use in pharmaceuticals and health foods, comprises monoglucosyl rutin, iso quercitrin and rutin at preset molar ratios.	2001	JP2003073279-A
	Orally administering pharmaceutical, health food or nutritive composition for recovering/maintaining connective tissue and preventing aging of skin, contains glycosaminoglycan or its salt and saponin or its salt.	2002	JP2004137183-A
	Peptide Y-2 superior in blood pressure-lowering effect obtainable by treating fish meat with alkaline protease, applicable as hypotensive drug and nutritional supplement as well as specific health food, with safety.	1999	CA2300229-A1; JP2000312567-A; EP1094071-A1; KR2001071676-A; US2003148923-A1
	Powder as health food, nutritional supplement, functional foodstuff and as raw material for drugs, comprises placenta partitioned from green pepper seed.	1999	JP2000236840-A
	Powder of calyx and green pepper for use as health food, nutritional supplement or as functional food stuffs.	1999	JP2000236839-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Powder/squeeze liquid for use in milk beverage, seasoning, health food and nutritive supplement, contains seed, placenta and septum of green pepper as active ingredient.	1999	JP2001112441-A
	Preparation of egg milk/emulsion, useful as nutritious health food, involves mixing egg white and/or yolk with water, treating with enzyme, heating, separating and maintaining aqueous layer at preset temperature.	2000	JP2002000233-A
	Preparation of ham-type foodstuffs as health/nutritional food, involves mixing salmon and/or sea-trout material meat with seasoning and binder mixture and processing at preset temperature and pressure.	2001	JP2003047441-A
	Preparation of momordicae fructus honey product used as a nutritive health food, involves mixing momoridcae fructus boiling water extract and honey in a suitable ratio.	1999	JP2000210053-A
	Preparation of nutritional foodstuffs, useful as health drinks and cool drinks, involves dispersing nutritional foodstuff uniformly in viscous polysaccharide.	1999	JP2001037455-A
	Preparation of soft capsule for health auxiliary foods - comprises blending carotenoid(s) extracted from algae with nutrients unstable to light and oxidation.	1997	JP10248526-A
	Prepn. of fat and oil contg. docosahexaenic acid monoglyceride in high content - useful as health food, nutrient-supplementing food and raw material for drugs.	1996	JP10057086-A
	Prepn. of healthy garlic food used as nutrition supplement - comprises washing garlic with cool water, cutting, pouring warm water contg. deodorising agent on garlic and dewatering etc..	1994	JP8038091-A
	Processed food useful as nutritional and health food, comprising taste component impregnated on surface of raw material such as dry shiitake mushroom, has preset moisture content after heat drying.	2001	JP2003088324-A
	Processed health food used to promote digestive absorption of nutrients in vegetables - produced by drying and powdering viscous fermented product containing Bacillus natto and vegetable nutrient.	1997	JP10304849-A
	Production of food containing mainly cereal flour with malt cake as side component, e.g. cakes, noodles and health foods with high nutritional value but no dry smell nor cereal smell, operable at reduced drying cost.	1999	JP2000333594-A; AU200046157-A
	Proteins with improved affinity to metallic ions - useful in nutrients, drink preparations, and healthy foods.	1998	JP11322790-A
	Royal jelly-containing foodstuffs useful as health food and nutritional supplement for improving physical strength and muscular strength, comprises residue generated during extraction of royal jelly as main ingredient.	2002	JP2004073002-A
	Stabilized reduced coenzyme Q10 composition, useful in e.g. foods, nutritious foods, health foods, nutritional supplements, eutropics, animal medicines, drinks or feeds, comprises fat and/or polyol.	2002	AU2003201924-A1; EP1475363-A1
	Supplement useful as health food having favorable digestion-absorption property of active ingredient, contains tourmaline powder for nutrition assistance added to active ingredient.	2003	JP2004261146-A
	Tablet for use as health food, for preventing diseases caused by nutritional imbalance, comprises amino acid and lactitol.	2000	JP2001258509-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Tofu, useful as health food having high nutritive value, excellent food quality and soft texture, contains pearl powder.	2001	JP2003189814-A
	Zinc-containing foods provides foods such as health (supplementary) foods, nutrition (supplementary) foods and foods with health claims.	2001	US2004137036-A1; JP2002586755-X
China	Nutritive health-care food.	1999	CN1293007-A
	A nutritive health-care food - is made up of forest frog fat, white sugar, walnut kernel, jujube,lily bulb and some other ingredients.	1998	CN1238142-A
	A nutritive health-care food for preventing diseases - is made up of snake,soft-shelled turtle and royal jelly.	1998	CN1238185-A
	Brain health-care food containing nerve nutrition factor - is used for delaying senility.	1998	CN1209286-A
	Buckwheat health-care nutritive food.	1998	CN1259291-A
	Flavoured nutritive health food capable of refreshing oneself, relieving summer heat and treating disease.	1998	CN1227728-A
	Full-nutrients health-care food and its production method.	1996	CN1171208-A
	Health food containing active nutritious protein and its production process.	2001	CN1324580-A
	Health food or special nutritious food for regulating blood pressure, blood fat and delay senility.	2000	CN1310958-A
	Health recovery nutrient food.	2000	CN1332972-A
	Health-care ginger-scallion-garlic food containing rich element iron nutrients and its preparing process.	2002	CN1382392-A
	Health-care nutritious food for human body immunoregulation and its processing method.	1997	CN1212139-A
	Health-care, diet, nutrient food production.	1994	CN1104450-A
	Medicated food nutrient capable of detoxicating cigarette, health cigarette and its making process.	2002	CN1403038-A
	Method for preparation of colour complete nutritious health-care food.	1994	CN1105537-A
	Method for preparing nutritious health food of soft capsule of composite yolk lecithin.	2002	CN1498552-A
	Method for producing health-care food containing rice bran nutrients.	2000	CN1327764-A
	Mixed fermentation technology for healthcare nutritive food - used to cure hyperlipemia, high blood sugar, and cardiovascular disease.	1998	CN1204692-A
	Multifunction health-care food - useful for resisting anoxia, regulating immunity and treating nutritional anaemia.	1998	CN1226399-A
	Newborn pigeon nutrient health care food and preparation process.	1999	CN1256894-A
	Nutrient and health-care Chinese style fast food.	1996	CN1161166-A
	Nutrient and health-care food.	1997	CN1176757-A
China	Nutrient containing health food and its preparation - contains trace elements, amino acids, calcium and vitamins.	1998	CN1224584-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Nutrient health food.	1995	CN1142327-A
	Nutrient health-care food with function of slowdown senility.	2000	CN1287803-A
	Nutrient health-care food with immunocompetence improvement.	2000	CN1287800-A
	Nutrient powder food with health-care function for heart and brain.	2000	CN1287804-A
	Nutritious health care food and preparation method.	2003	CN1483353-A
	Nutritious health care food and preparation process.	2003	CN1483450-A
	Nutritious health care food for treating galactostasis.	1999	CN1295847-A
	Nutritive chicken health food - contains chicken, natural green food and Chinese-medicinal materials.	1997	CN1194798-A
	Nutritive health biscuit of coarse food grain preparation.	1995	CN1149965-A
	Nutritive health food with functions of reducing blood fat and delaying senility and its preparation process.	2002	CN1421232-A
	Nutritive health maize flour food.	1996	CN1163708-A
	Nutritive health noodles with natural food fibre.	1994	CN1115609-A
	Nutritive health plumule food.	1996	CN1181903-A
	Nutritive health rice food.	1996	CN1163715-A
	Nutritive health snack food and its making method - comprises chicken, beef, fish and flour etc..	1997	CN1218624-A
	Nutritive health-care food for conditioning male sexual function.	2001	CN1316196-A
	Nutritive health-care food for losing weight comprises natural protein powder and tuckahoe powder.	2001	CN1397197-A
	Nutritive health-care food for supplementing nucleic acid and its preparing process.	2000	CN1340302-A
	Pentapanax leschenaultii series nutritious health food preparation.	1996	CN1149990-A
	Polypeptide health-care nutritive food and its making method.	2003	CN1478409-A
	Process for preparing health-care nutritious mushroom food.	1999	CN1273023-A
	Production process of instant nutritious health food.	1999	CN1294874-A
	Puffed and compressed full nutrient health food.	1999	CN1231858-A
	Rhubarb food and drink material useful for nutritional benefit in healthcare, e.g. in health foods and health drinks, comprises rhubarb stalk juice and steamed rhubarb pulp.	1996	CN1170536-A
	Two-combined nutrient health-care food and beverage and production method.	2001	CN1404769-A
China	Use of N-acetylglucosamine as additive in milk products of powder or liquid type, applicable in nutriology, food industry, pharmaceutics, healthcare products and medicine.	2003	WO2004093556-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	A healthy, nutritious, tasty, well-balanced food useful as an irregularity remedy - useful for promoting regular bowel movements without producing the large painful stools produced by psyllium or other bulking agents.	1997	US5869085-A
	Hand held calculator for evaluatinig nutritional food values - has calculator adapted to allow selection of food group and nutritional data from labels and indicate health value of food.	1997	WO9845766-A1
	Health food prod. contg. antioxidant in discrete section - with nutrient food in main portion, enhances oxidant defence and reduces oxidant stress and damage..	1995	AU9658806-A; US5834044-A; JP11506925-W; EP831726-B1; DE69627327-E
	Manufacturing method for pet food that is customized to health and nutrition requirements of e.g. an individual dog, involves tailoring food in response to biological analysis of pet sample, e.g. saliva, and pet profile provided by owner.	2001	US2003004655-A1; EP1401291-A1; BR200210918-A; AU2002315123-A1; JP2004529656-W
	New nutritional food or product comprises probiotic bacteria, carbohydrate, fat, protein, pre-biotic ingredient, vitamin, or mineral component, useful for maintaining or enhancing gastrointestinal health.	2003	US2004161422-A1
	New vegetable protein composition, useful in foods for improving health and nutritional benefits.	1998	AU9873072-A; JP11292898-A; CN1228927-A; CA2240795-C; KR99076483-A; US6132795-A; MX9805417-A1; JP3118451-B2; BR9815832-A; TW491688-A; EP943245-B1; DE69908219-E; ES2199523-T3
	Nutritional powder composition useful as health food for controlling and stabilizing blood sugar levels in diabetic patients, contains preset amount of isolated soy protein, fructose, inulin, guar gum and potassium chloride.	2002	US6706697-B1
	Personal health management device e.g. personal digital assistant executes operating program to generate health report based on input food sample nutritional information, biological information and activity caloric expenditure information.	2000	US2002072932-A1
	Wholesome food product for health, nutrition and weight management has 110 calories per 12 ounces and contains non-fat milk, glucomannan as fat immobilizer and artificial sweetener with no added sugar.	2000	US6426077-B1
Coréia	Health food supplement for providing pregnant women and nursing mothers with nutrients using raw grain foods.	2002	KR2003079190-A
	Method for producing health food supplements, pharmaceuticals and special nutritional foods for improving obesity constitution.	2000	KR2001091416-A
Coréia	Nutritional composition of health food for prevention and relief of attention deficit and hyperactivity disorder caused by heavy metal accumulation.	2002	KR2004019710-A
	Process of making nutritious health food using pig kidneys and livers.	1995	KR97005116-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Water-in-oil nutritious drink for health food and preparatory method thereof.	1997	KR98084957-A; KR215400-B1

Tabela dos **top depositantes** em Integração Alimentação, nutrição e saúde:

Depositante ou (Corporação)	Nº de Patentes
KUSUMOTO K	4
MEIJI MILK PROD CO LTD	4
ASAHI KASEI KOGYO KK	2
BAOTOU ENVIRONMENT PROTECTION TECHNOLOGY	2
BEIJING LONG LIFE & HEALTH CARE PROD CO	2
CRESCENDO CORP KK	2
KANEKA CORP	2
KNORR SHOKUHIN KK	2
LIU X	2
LU J	2

Os maiores depositantes são Kusumoto, K. (individual) e a empresa Meiji Milk, com 4 patentes cada:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
KUSUMOTO K	Dry powder for use in drinking water, health food, nutritive supplement food, health supplement food, quasi-drug and pharmaceuticals, contains spray dried extract of seed, placenta and septum of green pepper.	1999	JP2001269131-A
	Powder/squeeze liquid for use in milk beverage, seasoning, health food and nutritive supplement, contains seed, placenta and septum of green pepper as active ingredient.	1999	JP2001112441-A
	Powder of calyx and green pepper for use as health food, nutritional supplement or as functional food stuffs.	1999	JP2000236839-A
KUSUMOTO K	Powder as health food, nutritional supplement, functional foodstuff and as raw material for drugs, comprises placenta partitioned from green pepper seed.	2000	JP2000236840-A
MEIJI MILK PROD CO LTD	Oral composition containing, used in healthy and nutritional foods, contain ingredient of phospholipid derived from milk of mammals.	2000	JP2001275614-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Foodstuff composition useful as nutritive/health food and pharmaceuticals for preventing and treating inflammatory bowel disease and colon cancer, contains specific amount of D-mannitol or D-sorbitol as active ingredient.		JP2004049093-A
	Preparation of nutritional foodstuffs, useful as health drinks and cool drinks, involves dispersing nutritional foodstuff uniformly in viscous polysaccharide.	2002	JP2001037455-A
	Composition for improvement of lipid metabolism composed of extracts of corn silk of Zea mays and mycelia of Cordyceps used as foods for health maintenance and nutritional supplement.	1999	JP2002114701-A
ASAHI KASEI KOGYO KK	Prepn. of fat and oil contg. docosahexaenic acid monoglyceride in high content - useful as health food, nutrient-supplementing food and raw material for drugs.	1996	JP10057086-A
	Health consultation support system transmits nutrition analytical data received from dietitian with respect to image of foodstuffs to health counselor.	2001	JP2003030335-A
BAOTOU CITY ENVIRONMENTAL PROTECTION TEC	Nutrient and health-care food.	1995	CN1176757-A
BAOTOU ENVIRONMENT PROTECTION TECH DEV C; BAOTOU ENVIRONMENT PROTECTION TECHNOLOGY	Nutrient health food.	1997	CN1142327-A
CRESCENDO CORP KK	Functional sauce useful as health/nutritional food for preventing and treating life-style related diseases e.g. hypercholesterolemia and congestive cardiac disease, comprises ubiquinone as main ingredient.	2002	JP2004041161-A
	An additive composed of an oligosaccharide - for use in nutrients or healthy foods to condition the intestines.	1997	JP11075772-A
KANEKA CORP	Stabilized reduced coenzyme Q10 composition, useful in e.g. foods, nutritious foods, health foods, nutritional supplements, eutropics, animal medicines, drinks or feeds, comprises fat and/or polyol.	2002	AU2003201924-A1; EP1475363-A1
	Oral formulation for use as pharmaceutical and health/nutritional food, comprises oxidation type coenzyme Q and reduced type coenzyme Q as active ingredients.	2001	JP2003119127-A
KNORR SHOKUHIN KK	Low cholesterol mayonnaise useful as health/nutritive food, is formed by emulsifying oil phase and water phase using granule fraction and plasma fraction isolated from lyophilized egg yolk as emulsifier.	2002	JP2003079338-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Low cholesterol mayonnaise useful as health and nutritive food, contains edible plant fats-and-oils extraction egg yolk added to mayonnaise prepared by emulsifying oil phase and aqueous phase.	2001	JP2003310207-A
LIU X	Nutritive health rice food.	1996	CN1163715-A
	Nutritive health maize flour food.		CN1163708-A
LU J	Nutritious health care food and preparation process.	2003	CN1483450-A
	Nutritious health care food and preparation method.		CN1483353-A

TERMOS

Dos 6 termos sugeridos (pelos especialistas) sobre esse tema, 4 foram objeto de patenteamento, conforme tabela a seguir:

TEMA	TERMOS	Nº de Patentes focadas
Integração: Alimentação, Nutrição e Saúde	Nutracêuticos (Alimentos Funcionais)	389
	Qualidade de vida	6
	Organismos Geneticamente Modificados	3
	Produção de Vacinas em Plantas e Animais	52

11.1 Nutracêuticos (Alimentos Funcionais)

Em “nutracêuticos”, o Japão se destaca com 129 das 389 patentes do termo, seguido da Coréia, com 96, conforme tabela abaixo:

Tabela dos top países depositantes em Nutracêuticos**:**

País Depositante	Nº de Patentes
Japão	129
Coréia	96
EUA	79
China	28

As patentes por país são apresentadas a seguir:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	A cholesterol formation inhibitor prepared by extraction of sea lettuce with hot water or an organic solvent used for functional foods and medicines.	2001	JP2002212094-A
	Advanced Glycation End products production inhibitor useful as pharmaceuticals and functional food, comprises serum of tomato squeeze liquid, or its fraction as an active ingredient.	2002	JP2004059516-A
	Agent and a functional food for treatment of diabetes - comprises rhizome and bulbil of dioscorea bulbifera.	1995	JP8325159-A
	Agent useful as functional food for regenerating central-nerve cell processes and for treating dementia and neurodegenerative diseases, comprises beta-cryptoxanthin as active ingredient.	2002	JP2004059438-A
Japão	Agent useful as pharmaceutical and functional food for raising total-ketone-body-concentration in human blood, contains non-polymer catechin as active ingredient.	2002	JP2004035417-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Agents for improving lipid metabolism in the liver containing enzyme-digested soybean protein product by e.g. inhibiting secretion of triglycerides, applicable in drugs and functional foods for fatty liver or hepatocirrhosis.	2001	AU2002330303-A1
	Anti-allergic substance for functional food - is obtd. by hot water extract of Perilla frutescens and contains saccharide(s) and aminoacid(s).	1995	JP9020672-A; JP3071669-B2
	Anti-cancer agent, agent for giving macrophage activity and functional foodstuff, comprise extract of Agricus blazei and extract of Gandoderma lucidum.	1998	JP2000143530-A
	Antiallergic agent used in pharmaceutical composition and functional food for treating and preventing allergic diseases, dermatitis, bronchial asthma and allergic rhinitis, contains lycopene.	2002	JP2004161635-A
	Antibacterial protein gene of wasabi useful for preparation of antibacterial agent or functional food.	2000	JP2002085080-A
	Antiinflammatory agents, agents for promoting or ameliorating allergic diseases and functional foods containing alpha-bond galacto-oligosaccharide, particularly for treatment of e.g. chronic inflammation.	2002	WO2003101464-A1
	Antioxidation of powdered unsaturated fatty acid used in functional food - comprises admixing fatty acid with powdered antioxidant..	1995	JP9176679-A
	Antistress agent for use in pharmaceuticals and functional food, comprises an aromatic component of a liquor as an active ingredient.	2001	JP2003171286-A
	Antiviral agent for feeds and functional foods - contains grape dye.	1994	JP8027015-A
	Beans confectionery, has layer containing mixture of functional food raw material, sugar honey or starch powder, functional food free layer containing wheat flour, starch powder and sugar honey, and seasoning, sequentially on beans.	2002	JP2004121060-A
	Brown sugar mash vinegar for use as functional food of brown sugar fermentation beverage, has high amount of potassium content.	2000	JP2002010773-A
	Carboxymethylated konjak mannan useful as functional food/drink for reducing level of cholesterol.	2002	JP2004099466-A
	Cassis anthocyanin composition for use in functional foods for improving blood flow and reducing blood pressure.	1999	AU200057068-A; EP1208755-A1; KR2002019481-A; JP2001507311-X;
	Cerebral function improving agent as functional foodstuff for improving cerebral function, comprises fruits or treated substance of mushroom of Climacodontaceae as active ingredient.	2000	JP2002080390-A
Japão	Classification and purification method of fenugreek seed as raw material for functional food, by classifying fenugreek seed physically to endosperm and seed coat and purifying endosperm to obtain galactomannan of high purity.	2002	AU2002368394-A1
	Clot formulation or platelet aggregation inhibitor for use in functional food for treating and preventing diseases caused by thrombosis, contains proanthocyanidin as active ingredient.	2003	JP2004238289-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Collagen production promoter for use in cosmetics, pharmaceutical, quasi-drug, foodstuff, health food, functional food and medicinal food, contains litchi seed or its extract as active ingredient.	2003	JP2004224785-A
	Composition useful in health/functional foods and pharmaceutical preparations for preventing and treating arteriosclerosis, comprises pterocarpan as active ingredient.	2001	JP2003155236-A
	Constipation improving agent for use as functional foodstuff, contains extract of Morinda citrifolia leaf.	2002	JP2004075601-A
	Culture medium for cultivating mycelium/fruiting body of mushrooms such as Pleurotus citrinopileatus and Hericium erinaceum, useful as functional food comprises vanadium-containing component as main ingredient.	2001	JP2003158920-A
	Deodorising and functional food and its material or its compsn. - by contacting e.g. marine prod. fat and yeast together in soln. and extracting deodorised prod. for making e.g. bread high in elcosa-penta:enoic acid..	1994	JP8140592-A
	Dioxin-elimination promoters containing microorganism capable of promoting elimination of accumulated dioxins in e.g. liver by natural excretion, useful in functional foods and drinks as well as feeding materials.	2002	AU2003241690-A1
	Dispersion-stability yeast suspension foodstuff material such as functional food, is obtained by homogenizing yeast suspension at high voltage to disperse stably.	2001	JP2003102425-A
	Dried milk preparation used for nutrition foodstuffs and functional foodstuffs - involves mixing solutions containing different components sprayed from different nozzles to form dried milk.	1998	JP2000041576-A
	Edible antioxidant composition for use in functional food for treating/preventing infectious disease, contain lactic acid fermented substance of Agaricus blazei and enzymatically degraded substance of hemicellulase.	2002	JP2004159655-A
	Enzymatic production of purified anthocyanins and crystalline products from natural resources, for use in (functional) foods, beverages, drugs and cosmetics.	2000	AU200184529-A; EP1318201-A1; JP2002527289-X; US2004101933-A1
	Extraction of new biologically active components from Fuscoporia obliqua useful in functional foods, involves performing enzymatic treatment by adding a carbohydrate degrading enzyme e.g. amylase, glucanase and mannanase.	2002	JP2004161748-A
	Fermented soybean milk, for use as functional foodstuff, contains a processed sesame product, for improving the flavor of fermented soybean milk.	2000	JP2002045137-A
	Foodstuffs e.g. functional food and health food for preventing and treating pollinosis, contains fish meat extract or livestock meat extract containing imidazole dipeptide e.g. anserine, carnosine or balenine.	2002	JP2004173589-A
	Fortified functional food supplement, comprises green tea-catechin as main component, and small amount of garcinia leaf powder, grape seed powder, vitamin B12, E, Bacillus-natto extract and excipient.	2001	JP2003024010-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Functional food and pharmaceuticals contg. gallocatechin gallate, used in anti-allergic drug - prepd. by extracting Chinese tea leaves with hot water and ethyl acetate..	1994	JP8242813-A
	Functional food as health food for treating diabetes comprises paste-like ground material or dry powder obtained by grinding mature creature of sea-squirt of Enterogona.	2001	JP2003189818-A
	Functional food composition containing microbial mixture to improve liver and kidney function, and suppress tumors.	1998	JP11221071-A; CN1255943-A; KR2001006059-A; EP994183-B1; DE69919953-E
	Functional food dressing having high drug efficacy, for use in health food, is obtained by using phosphatidylserine.	2002	JP2004008204-A
	Functional food for humans, and useful as livestock feed, for treating contact dermatitis, contains skin layer of fruits, and trehalose, as active components.	2000	JP2001346537-A
	Functional food for improving bowel movement for eliminating constipation, is obtained by grinding and heat-processing soybean powder, yogurt powder and/or yacon powder.	2002	JP2004194663-A
	Functional food for preventing diabetes and obesity, comprises dayflower and Commelina communis as main components.	2001	JP2002306123-A
	Functional food for preventing diabetes and obesity, containing Commelina communis, which restrains blood glucose concentration, as the main component.	2003	JP2004141168-A;
	Functional food for preventing tumours of large intestine - contains yeast and is used for e.g. mayonnaise..	1995	JP8242812-A
	Functional food for raising action of phytamins in blood and for increasing tenacity, comprises Maca.	2002	JP2004000171-A
	Functional food for reducing obesity, articular pain and ventilation and for accelerating diuresis, contains chondroitin sulfate derived from nasal cartilage of salmon or trout and sap of Betulaceae Betula trees.	2000	JP2001231497-A
	Functional food for reducing total cholesterol and neutral fats in serum, comprises hyaluronic acid and fucoidan containing material.	2001	JP2002223727-A
	Functional food for suppressing elevation of blood glucose and blood pressure, contains extract of fruits skin of Rutaceae and citrus, which is hybrid of kumquats grown in Philippine and southeast Asia and mandarin oranges.	2002	JP2003199527-A
	Functional food for treating hypotension, is obtained by denaturing soybean protein by heating and decomposing denatured protein with enzyme.	2002	JP2003210138-A
	Functional food manufacturing method involves forming yeast mash by fermentation of bean-curd lees separated from soybean and absorbing components from yeast mash by adding absorbent.	2000	JP2002176944-A
	Functional food products with serum lipid improvement effect comprises culture media having whey protein obtained by lactic acid bacteria of intestine Lactobacillus and Streptococcus thermophilus.	1999	JP2000197469-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Functional food stuff for treating menorrhalgia comprises reinforced calcium and isoflavone as active ingredient.	1998	JP2000157207-A
	Functional food such as dairy products, processed cheese, fermented milk, lactic acid beverage, processed milk, milk beverage and ice cream for preventing hypertension, contains enzyme-modified cheese as active ingredient.	2002	AU2003284648-A1
	Functional food, especially tea, containing catechin gallate compounds or strychnine for treating allergies such as pollenosis.	2002	JP2004105078-A
	Functional food, such as juice or powder, for treating or preventing diabetes, comprises Brassica campestris or its hybrid having hypoglycemic effect.	2002	JP2004105176-A
	Functional food, useful in suppressing blood pressure and glucose levels, comprises strong-Okinawan-liquor black Aspergillus, or Aspergillus kawachii-extract, symbiosis fermented liquor of black/white Aspergillus, and yeast.	2001	JP2002223725-A
	Functional food/beverage for treating allergic symptoms such as pollinosis and asthma, comprises tea leaf containing antiallergic component as active ingredient.	2003	JP2004222683-A
	Functional foods, drugs and cosmetics containing vegetables and fruits, useful for promoting Lactobacillus bifidus growth, preventing allergy and lowering cholesterol level.	1998	JP2000169382-A; EP1064855-A1; US2003165557-A1
	Functional foodstuff for treatment against alcoholism, contains dried, ground coprinus atramentarius.	1998	JP2000116354-A
	Functional foodstuff material is formed by adding mixture containing ground materials of tropical plants such as papaya and carbohydrate and/or edible salt, and lactic acid producing bacteria and performing lactic acid fermentation.	2001	JP2003024009-A
	Functional foodstuff, consists of culture medium and culture mycelium obtained by cultivating edible crops containing polyphenols with spawn of Agaricus blazei in culture medium.	2001	JP2002345432-A
	Functional foodstuffs useful as anticancer agents in drinks, has cell cancer inhibitory effect, and comprises burnt sweet potato or purple-colored sweet potato, as the raw materials.	1999	JP2001069945-A
	Gamma-amino butyric acid content fortification in unpolished rice, as functional food component, involves germinating rice with water, filtering through layer of baked oyster calcium, zeolite and activated carbon.	2000	JP2001321100-A
	Glycosuria-pathological condition preventing-improving agent for use in functional food and feed for preventing and treating insulin-dependent glycosuria, contains Sargassum horneri or its treated substance, as active ingredient.	2003	JP2004217559-A
	Health functional composition such as health functional foodstuffs and drinks for promoting immunostimulation effect, contains mushroom and/or its extract and Lactobacillus.	2002	JP2004051504-A
	High-functional food for use as health food, such as stress relief and green juice for regulating living body functions, contains ground or shredded rice.	2000	JP2001275612-A
	Highly functional foodstuff for inhibiting colon cancer, contains mineral reinforced yeast.	1999	JP2000253851-A
	Hypotensive agent and functional food - composed of angiotensin II decomposition peptide.	1994	JP7215889-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Hypotensive peptide SY and SY-MD are peptide mixtures containing peptide Val-Tyr obtainable from protease-treated fish meat, applicable as hypotensive drugs, blood pressure-increase inhibitors and functional foods.	2001	AU2002360002-A1; US2004087504-A1; EP1460084-A1; KR2004067859-A
	Industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.	2001	EP1411062-A1; US2004137558-A1; AU2002355233-A1; JP2003515548-X
	Industrial production of dipeptides with use of L-amino acid amide hydrolase by culturing with microorganisms or processed microbial cells, for application in drugs and functional foods.	2001	EP1411060-A1; KR2004026658-A; AU2002355232-A1; JP2003515546-X
	Lactic acid fermented functional food is obtained by mixing Aspergillus in solution of diluted sugarcane juice, performing digestive process, mixing Lactobacillus culture solution, and performing lactic acid fermentation.	2001	JP2002238498-A
	Laxation improvement composition for use as raw materials in diet drink and functional food, contains preset amounts of roasted cereals e.g. soybean, water-soluble dietary fibers, oligosaccharide, tea polyphenols and lactic acid bacteria.	2002	JP2004155727-A
	Manufacture of chondrosine e.g. (beta) (1,3)-d-glucuronosyl-D-galactosamine useful as functional food, involves hydrolyzing chondroitin raw material and electrodialyzing.	2002	JP2004196693-A
	Manufacture of fructose disaccharide useful as functional food raw material, by reacting microorganisms derived enzyme on grass family plant leaf, stalk and straw.	2003	JP2004242565-A
	Manufacture of glycolipid e.g. sphingoglycolipid for use in functional food e.g. noodles, ice cream, drinks and confectioneries, involves extraction of glycolipid from coffee bean using organic solvent.	2003	JP2004217606-A
	Manufacture of mannan oligosaccharide used as functional food material or as chemical intermediate, by hydrolyzing mannan natural polysaccharide in aqueous medium at preset temperature.	2003	JP2004254646-A
	Manufacture of powdered substance of Morinda citrifolia leaf for use as raw material in functional food and cosmetics, by wet pressure-heating of Morinda citrifolia leaf, processing with cellulose hydrolase and drying.	2002	JP2004073072-A
	Manufacture of water-soluble rice bran powder extract used as functional food stuff material and cosmetic material, involves adding aqueous organic acid solution to rice bran or de-greased rice bran and drying.	2000	JP2001252031-A
	Medical agent useful as functional food for treating pruritus such as refractory pruritus and geroderma pruritus, comprises extract obtained from oyster meat.	2002	JP2004067557-A
	Medicinal compositions for promoting recovery from stress loading containing matsutake mushroom strain e.g. as aqueous or dried extracts, applicable in oral hygiene compositions, functional foods and feeding materials.	2000	AU200194210-A; EP1331009-A1; US2003180901-A1; KR2003046495-A; JP2002533880-X; CN1469751-A
	Mfg fat and oil used in functional food or medicine - comprises two=stage purificn of fat and oil by using non=polar substance absorbent and polar substance adsorbent.	1995	JP8311480-A
	Mfr. of highly unsatd. fatty acid triglyceride - from highly unsatd. fatty acid monoglyceride or highly unsatd. fatty acid diglyceride, useful for functional foods and drugs.	1996	JP10036879-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Microbial alginate lyase, useful for producing an alginic acid decomposate which can be used as a drug and as a functional food.	1999	JP2000342278-A
	Microorganism secreting out lipid comprising unsaturated fatty acids in balls, for use in drugs, functional foods, cosmetics and feeds.	1999	AU200064761-A; EP1122304-A1; KR2001073210-A; JP2001517665-X
	Microorganism useful for the production of long chain polyunsaturated fatty acids useful in e.g. functional foods.	2000	EP1138759-A2; JP2001275656-A; US2001041358-A1;
	Muscular dystrophy therapeutic agent for use in pharmaceuticals, health food and functional food, contains glutamine peptide.	2003	WO2004075908-A1
	New 12-lipoxygenase inhibitors - are useful as functional food and food additives for prevention and treatment of arteriosclerosis, heart failure and allergic diseases.	1997	JP10203973-A
	New alpha-agarase used for efficient production of low polymerization degree agarooligosaccharides e.g. agarobiose and agarotetraose as drugs for e.g. apoptosis induction, anti-cancer and immunomodulation or for functional foods.	1999	AU200025752-A; EP1156104-A1; KR2001102209-A; CN1347452-A; JP2000601142-X; US2002156240-A1;
	New eudesman- and gelmacran-type sesquiterpene compounds - useful as ingredients of functional food for improving blood circulation or eye strain.	1998	JP11246455-A
	New functional foodstuffs for preventing tumor, comprises limonoid glycoside.	1999	JP2000316527-A
	New made-to-order immuno potentiated composition containing functional food or its specific substance such as cEPA, DHA, CPP, used to increase immuno activity of each individual.	2000	JP2002249444-A
	New peptide capable of inducing macrophage chemotaxis, useful as immunostimulant in functional foods.	2003	WO2004092206-A1
	Oral remedies for joint injury and functional foods containing collagen, its peptides, aminosugars and other saccharides, applicable in treating cartilage as well as bone.	2001	JP2003048850-A
	Peptide and an angiotensin I converting enzyme inhibitor containing it - useful as drugs having hypotensive activity or in functional foods.	1997	JP10298199-A
	Peptide synthase and encoded gene for industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.	2001	EP1411116-A1; AU2002355234-A1; JP2003515658-X
	Physiologically functional foods or cosmetics comprise sphingoglycolipid compounds obtained from potatoes or oil waste.	2001	KR2002030828-A; JP2003002835-A; US2003044449-A1; EP1302113-A1; CN1392776-A
	Platelet aggregation inhibitor useful in pharmaceuticals and functional foods for preventing and treating diseases accompanied with platelet aggregation, contains 1,5-anhydro-D-fructose or its derivative as active ingredient.	2002	AU2003302079-A1
	Powder as health food, nutritional supplement, functional foodstuff and as raw material for drugs, comprises placenta partitioned from green pepper seed.	1999	JP2000236840-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Powder of calyx and green pepper for use as health food, nutritional supplement or as functional food stuffs.	1999	JP2000236839-A
	Powder or granulated functional food with good medicinal effect - obtd. by diluting pickled plum contg. reduced common salt and its core with rice vinegar and e.g. powdering.	1995	JP8228711-A
	Preparation of a physiologically active peptide composition containing 90 percent acetic acid, used as a dermal agent, cosmetic, or functional food/drink.	1999	JP2000256394-A
	Preparation of Chinese rice-cake sweets for use as preserved- and functional-food, contains brown sugar containing vitamin-mineral and having hygroscopic property, as preservation and functional food material.	2000	JP2002017265-A
	Preparation of fermented soybean milk for use as functional foodstuffs, involves fermenting soybean milk with Lactobacillus, using carbohydrate utilizing Lactobacillus added with sweetener difficult to use separately.	2000	JP2002051720-A
	Preparation of gel e.g. in functional foods using calcium ascorbate as gelling agent.	1998	JP2000053587-A
	Preparation of germinated unpolished rice for use as functional food, supplementary food and staple food, for improving health, involves polishing unpolished rice by pounding, and carrying out germination.	2000	JP2001352916-A
	Preparation of hydrophobic glycyrrhiza extract, useful as foods, food additives, functional foods, health foods, drinks, feeds, drugs or quasi drugs, comprises extracting with water soluble organic solvent.	2002	AU2003211247-A1; EP1477177-A1
	Preparation of nutraceutical chips useful as health food, involves heating vegetables, seaweed, edible polymeric material and calcium salt, forming thin film and heat-drying and/or vacuum drying thin film-like molding.	2002	JP2003310179-A; US2003232110-A1
	Preparing saccharide polymers and amphiphilic glycoside compounds from glycoside in presence of solid ultrastrong acid for use in e.g. functional foods.	1998	JP2000119389-A; US6512109-B1; EP1123939-B1; DE69916095-E
	Prevention of flavor deterioration such as change of aroma flavor in food/beverage products e.g. carbonated beverages, involves using chlorogenic acid, caffeic acid, and ferulic acid in functional food/beverage products.	2003	JP2004267158-A
	Probiotics products containing lactic acid bacterium, useful in compositions for preventing or treating digestive diseases and urogenital infections, including functional foods.	2000	AU200180178-A; EP1312667-A1; US2003157079-A1; JP2002522228-X
	Process for obtaining with ease and a high production yield genistin-rich isoflavone composition use for functional foods, medicines, etc. comprises subjecting an isoflavone solution to pH regulation.	1998	JP2000095792-A; US6479054-B1
	Process for producing glycogen for use for functional foods comprises heating a carbohydrate material under acidic conditions, filtering and concentrating.	2002	AU2002354110-A1; EP1454918-A1
	Production of D-cistenoic acid extract used in functional food and feed and pharmaceutical composition, involves extracting seaweed containing D-cistenoic acid using carbon dioxide in supercritical state.	2002	JP2004143112-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Production of fermented milk (serum) comprising Val-Pro-Pro and/or Ile-Pro-Pro angiotensin-converting enzyme inhibitory peptides, useful as drugs, functional foods and health foods.	1999	AU200018926-A; EP1142481-A1; JP2000593192-X; NZ513305-A; AU775220-B2
	Production of whey mineral of high zinc content with good flavour - useful for incorporation into liquid formulations, e.g. medical foods, nourishing reinforced foods, functional foods or seasonings.	1996	EP842611-A2; AU9745183-A; JP10191933-A; NZ329186-A; US5958477-A;
	Prophylactic or therapeutic agent for respiratory diseases - contain Smilax china Linne or analogous plant as active ingredient, also useful for treating allergic diseases, as health and functional foods or additives for cosmetics.	1997	AU9874496-A; JP10550239-X; US6309674-B1; JP3561764-B2
	Protein/phospholipid bonded substance - improves lipid and cholesterol metabolism and useful as functional food for treatment of hypertension, obesity, fatty liver etc..	1995	JP9511080-X; KR97706832-A; US2002182250-A1; CN1161001-A; EP790060-B1; DE69630666-E; AU200056551-A;
	Rat eosinophil-derived major basic protein - and anti-MBP antibody, useful in functional foods and as immune activators.	1996	JP9262088-A
	RNA-gelatin composite for preparing health foods, cosmetics, functional foods and various drinks, comprises RNA, and gelatin or collagen peptide without losing their activity.	2002	JP2004173556-A
	RNA-protamine composite produced without loosing activity of RNA and protamine, useful as healthy food, as cosmetic, as tablet, as functional food or as drink.	2002	JP2004173555-A
	Soybean milk useful as functional food effective against hyperlipemia contains triglycerides or ethyl esters containing EPA and/or DHA.	2000	EP1340429-A1; KR2003048466-A; JP2002540584-X; US2004052925-A1
	Stress reliever for use in foodstuff, supplement, functional food or pharmaceutical, contains black cohosh as active ingredient.	2002	JP2004196750-A
	Tablet triturate agent for use as pharmaceutical, functional food, nutritional supplement and fodder, contains dried yeast powder and crude drug extract.	2001	JP2002255833-A
	Ultra-low-molecular Mozuku seaweed extract for use as beverage, functional food/cosmetics for preventing and treating incurable diseases of circulating systems, is obtained by method described by Kyosuke Oowa.	2000	JP2002165579-A
	Use of arbutin and lupeol-containing melanogenesis regulators in compositions for e.g. controlling skin pigmentation or skin pigment loss, applicable in cosmetics, drugs and functional foods.	2002	AU2003227273-A1
	Use of the senna leaf residue remaining after extraction of sennoside as an active ingredient in cosmetics and functional foodstuffs.	2001	JP2002255733-A
	Utilizing physiological activity of rare saccharide e.g. D-allose or D-psicose in compositions like functional foods, drugs and cosmetics in treating e.g. cancer, ischemic disease and diabetes.	2002	AU2003235403-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Vegetable functional foodstuff for preventing senile dementia - based on mugwort or bamboo.	1997	JP10276719-A
Coréia	Antivirus medicine and functional food for remedy and prevention of a cold.	1998	KR2000022593-A
	Agent and functional food for preventing and treating hyperlipidemia.	2000	KR2002013132-A
	Anti-diabetic drug and functional food containing alcohol extract of panax ginseng leaves.	2003	KR2004066453-A
	Anti-inflammatory composition containing extracts of natural drug stuffs and functional foods containing the same as active ingredients.	2002	KR2003005116-A
	Antibiotic, functional cosmetic and functional food used against e.g. yeast and drug resistant bacteria comprise levulinic acid or its derivatives.	2002	US2003147930-A1; JP2003226641-A; KR2003047717-A
	Apparatus for injecting functional food into inside of various kinds of edible eggs.	2004	KR2004027769-A
	Case for electronic product using nutraceuticals.	2003	KR2004064184-A
	Composition useful for preparing coated functional foods comprises isomalt powder, chromium picolinate and maltitol solution.	2001	AU200182663-A
	Culturing mushroom mycelia in cereal grain media and autolysing them to provide materials for producing functional foods.	2001	US2002041917-A1; JP2002176968-A; CN1365603-A; KR2002096572-A
	Encapsule/capsule of functional food and preparation and manufacturing system thereof.	2002	KR2004048052-A
	Fermented functional food produced from grain.	2003	KR2004063703-A
	Functional fertilizer for improving health, comprises nutraceutical-contained materials which improve biocontrol activity, prevent diseases and strengthen self-immunity.	2003	KR2004064545-A
	Functional food composition and production.	2001	KR2002071152-A
	Functional food composition for weight reduction, comprises several crude drugs and special components related to metabolism of fat as a main component.	2000	KR2002005333-A
Coréia	Functional food composition having antimicrobial activity, containing chitosan, chitosan oligosaccharide and grapefruit seed extract.	2002	KR2004043396-A
	Functional food composition having effects of nicotine conversion into cotinine and antioxidation for use as foods, food additives, drinks, or drink additives, comprises extract from green tea leaves and extract from artemisia capillaries.	2003	WO2004075665-A1
	Functional food composition having excellent constipation-improving effect and production thereof.	2002	KR2003096615-A
	Functional food composition, health care food and a food additive useful in e.g. beverage, vitamin complex, fruits, dehydrated foods comprise bando deep ocean water containing a plenty of natural mineral.	2002	KR2004028252-A; AU2003265104-A1
	Functional food containing extract of salicornia herbacea and siegesbeckia spp. and effective for reduction of body fat and production method thereof.	2002	KR2004003923-A
	Functional food containing herbal composition having function of improving female menopause symptoms.	2002	KR2004010176-A

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Coréia	Functional food effective for reduction of body fat by improving bowel movement and removing fecal impaction.	2002	KR2002041366-A
	Functional food effective for treatment of male sexual dysfunction and production method thereof.	2002	KR2004003401-A
	Functional food for improving male sexual function.	2001	KR2002090444-A
	Functional food for the treatment of atopic dermatitis.	2001	KR2002061964-A
	Functional food having antioxidant effect and aging-inhibiting effect, containing cercis chinensis extract.	2002	KR2004060730-A
	Functional food having deodorizing function and production method thereof.	2002	KR2004005535-A
	Functional food ingredient containing mulberry leaf, silkworm and cordyceps, and manufacturing method.	2001	KR2001069275-A
	Functional food material for prevention and improvement of dementia and food product using the same.	2003	KR2003036389-A
	Functional food product containing herb composition for ameliorating allergic disease.	2002	KR2004030370-A
	Functional food product.	2001	KR2003029254-A
	Functional food useful for cleaning blood and facilitating blood circulation , using natural medicinal herbs and silk peptide.	2001	KR2001099197-A
	Functional food useful for the treatment of diabetes comprises plant extracts, such as mulberry leaf and liriopis tuber.	2000	KR2001105095-A
	Functional food using benincasa hispida cogn. and production.	2000	KR2002037966-A
	Functional food using enzyme extracts and production.	2000	KR2002017197-A
	Functional food using ginseng, maesil(japanese apricot), salt and sugar.	2000	KR2002036622-A
	Functional food using mycelium of tricholoma matsutake and production.	2000	KR2002042015-A
	Functional food using red pepper and coffee powder.	2002	KR2004028451-A
	Functional food.	2000	KR2001075842-A
	Functional foods containing sugar alcohol extracted of herb plant and preparing method.	2001	KR2003018730-A
	Functional foodstuff composition with edible frog and process.	2001	KR2003020774-A
	Functional hormone for stimulating the immune and lymphatic systems, comprises herbal extracts, nutraceuticals, pharmaceutical and nutritional active materials.	2003	KR2004064549-A
	Functional ringer's solution for stimulating the immune and lymphatic systems, comprises herbal extracts, nutraceuticals, pharmaceutical and nutritional active materials.	2003	KR2004064548-A
	Functional vitamin for stimulating immune and lymphatic systems, comprises herbal extracts, nutraceuticals, pharmaceutical and nutritional active materials.	2003	KR2004064552-A

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Coréia	Growth hormone secretagogue and functional food containing diosin or plant extract containing the same.	2002	KR2003070283-A
	Growth hormone secretagogue and functional food containing spicatoside a or liriope platyphylla extract containing the same.	2002	KR2003070282-A
	Herbal medicine composition having excellent immunostimulating activity and functional food containing the same.	2001	KR2003008080-A
	Immunity controlling agent and functional food.	2000	KR2002013134-A
	Lipase inhibitor and functional food containing the same for preventing obesity.	2002	KR2004012110-A
	Manufacture method, various uses and extracts for the development of anti-constipation functional food materials from oriental herbal medicines.	2002	KR2004010854-A
	Manufacture of solid functional food.	2000	KR2000058342-A
	Manufacturing method of functional food for hangover cure using mixture of hovenia dulcis thunb, alnus japonica and pueraria thunbergiana benth.	1999	KR2001018097-A
	Manufacturing method of functional food having ixeris dentata ingredients, and food.	1999	KR2001062855-A
	Manufacturing method of semisulcopira libertina extract and functional food having the extract.	2000	KR2001007847-A
	Matrix metalloproteinase inhibitor and functional food containing flavonoid derivatives or extracts of dalbergia odorifera containing the flavonoid derivatives.	2002	KR2003075396-A
	Method for coating cereal for natural functional food.	2000	KR2002021957-A
	Method for cooking functional food.	2002	KR2002045589-A
	Method for manufacturing diced garlic containing functional food and having an extended storage.	2003	KR2003094201-A
	Method for manufacturing functional food product using water comprising Humic material obtained by contacting water with oceanic diatomite and mineral class.	2000	KR2000030297-A
	Method for manufacturing functional foods with sword bean.	2001	KR2001070692-A
	Method for preparing functional food containing components of wild mountain ginseng.	2002	KR2004050671-A
	Method for producing functional foods using glucomannan and mulberry bark.	2002	KR2004032585-A
	Method of separation of dietary fiber from highland vegetable and functional food containing the dietary fiber.	2001	KR2003008672-A
	Natural antioxidant composition and functional food containing the same as an active ingredient.	2003	KR2003015347-A
	Neutral lipid inhibiting composition and its functional food.	2002	KR2004034923-A
	New bacterial strain for converting linoleic acid to conjugated linoleic acid used in functional foods or medicaments.	2002	KR2003081180-A; AU2003221135-A1

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	New Kimchi lactic acid bacteria, useful as part of a gastrointestinal-tract-protecting highly functional food, or as a medicine for preventing and treating gastritis, peptic ulcers or duodenal ulcers caused by Helicobacter pylori.	2001	KR2002088516-A; AU2002306388-A1; JP2004524859-W; CN1514875-A
	New microorganism Bifidobacterium infantis PL9506 having high nutraceutical activity for use in fermented diary products, food additives, medicines, cosmetics, and probiotics.	2002	KR2004019669-A
	Pharmaceutical composition and functional food for prevention and treatment of diabetes mellitus, containing extract of illicium verum hook or foeniculum vulgare mill.	2001	KR2003019049-A
	Preparation method of functional food and drug using natural animal and plant.	2000	KR2002016222-A
	Preparation of an extract from Hovenia dulcis thunb as material for functional foods, medicines, chewing gum, candy, confectionery, tea.	1999	KR99064643-A
	Preparation of anti-diabetic functional food and drink using extracts of fomes fomentarius and product thereof.	2003	KR2003086503-A
	Preparation of fermented functional foods and fermented soybean products such as chungkukjang and mejoo by using exhaust heat from a charcoal kiln or waste heat.	2003	KR2003015333-A
	Process and device for preparation of nutrition enriched functional foods using method of low temperature extrude fabrication.	2000	KR2002007740-A
	Process for preparation of nutrient-enriched functional foods by extrusion-cooking and products prepared.	2001	KR2002082533-A
	Process for preparing functional food and medicinal liquor using chinese pea tree.	2003	KR2003014745-A
	Process for reforming rice using grain and functional food materials.	2000	KR2002026765-A
	Production method of food additives giving nutraceutical efficacies.	2002	KR2003005130-A
	Production method of functional food containing extract of platycodon grandiflorum.	2000	KR2001084854-A
Coréia	Production of acanthopanacis cortex extract and functional food containing extract.	2000	KR2001097224-A
	Production of concentrated extract containing epimedii herba and eucommia ulmoides as main material and functional food containing extract.	2000	KR2002010218-A
	Production of food composition containing wheat bran and functional food using the same.	2001	KR2003009827-A
	Production of functional antler, freeze dried deer blood or old antler and functional food and medicine using the same.	2002	KR2004061707-A
	Production of functional food additive.	2002	KR2003011942-A
	Production of functional food containing capsaicin having diet effect.	2002	KR2003080340-A
	Production of functional food containing seaweeds as main material.	2000	KR2001104965-A
	Production of functional food using opuntiodeae.	2000	KR2001089955-A
	Production of functional food using powdered soybean paste and plum.	2002	KR2004007184-A

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	Production of opuntia ficus-indica powder in sterile state and functional food containing opuntia ficus-indica powder produced by use of method thereof.	2002	KR2003075236-A
	Purifying rice embryo buds for use as raw materials of functional foods and medicines, comprises fermenting the buds with yeast and white sugar.	2000	KR2002004713-A
	Solid or fluid type functional food and manufacturing method thereof.	2002	KR2003070933-A
	Stamina enhancing composition containing natural herbs extracts and functional food containing the same as active ingredient.	2003	KR2003021189-A
	Starch syrup containing functional food and production.	2000	KR2002009341-A
	System for manufacturing and selling functional food, and its control method.	2000	KR2001025186-A
	System for operating functional food restaurant.	2002	KR2002062713-A
EUA	Nutraceutical composition useful for inducing or maintaining weight loss, enhancing physical performance, and increasing muscle mass comprises at least one of synephrine, hordenine, octopamine, tyramine and N-methyltyramine.	2002	AU2003239461-A1
	Administering biologically beneficial compound, e.g. pharmaceuticals or nutraceuticals, by forming mass of compound on cap assembly of beverage container, where the compound passes to the mouth of person drinking from the container.	2002	US2003170291-A1
	Anticancer nutraceutical formulation contains a lunasin polypeptide and a pharmaceutically acceptable excipient.	1999	EP1173476-A4; AU200048096-A; US6391848-B1; JP2002543219-W;
	Bioenhancing a composition comprising an extract and/or one or more bioactive fractions/isolates of Zingiber officinale, one or more additives e.g. nutrients, nutraceuticals, herbal drugs/products, and optionally, piperine.	2001	US2003170326-A1; AU2002366588-A1; EP1465646-A1
EUA	Biotransforming precursor compounds using non-prokaryotic microalgae, useful in pharmaceutical, agrichemical, nutraceutical, ecological, hazardous waste, food flavoring or food additive applications.	2003	US2004175782-A1
	Carotenoid formulation useful as functional food or dietary supplements comprises carotenoid-cyclodextrin complex, coated with a coating agent.	2002	US2004109920-A1
	Composition comprising a combination of a pharmaceutical and nutraceutical, for treating an immune response of the respiratory system, particularly a cough.	2001	US2002004078-A1
	Composition suitable for incorporation into e.g. foods, beverages, pharmaceuticals and nutraceuticals.	1998	AU9940275-A; EP1082026-A1; BR9910950-A; JP2002517418-W; NZ508645-A
	Composition used in treatment of migraine comprises pharmaceutical, nutraceutical and base.	2001	US2002034555-A1
	Composition useful as nutraceutical supplement elixir for optimizing adaptive immune system and for preventing upper respiratory infections, cold and influenza, contains preset amount of garlic and clear brandy alcohol.	2004	US2004146588-A1
	Composition useful for treatment of pain comprises a pharmaceutical, nutraceutical and a base.	2001	US2002006445-A1

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EUA	Composition useful in the treatment of acid reflux disease comprises a pharmaceutical and a nutraceutical in a base.	2001	US2001043959-A1
	Compositions comprising a nutraceutical and N-(N-(3,3-dimethylbutyl)-L-alpha-aspartyl)-L-phenylalanine 1-methyl ester have improved taste.	1999	AU200040388-A
	Compositions comprising bioactive glass, useful as cosmetics, cleaning agents, personal care products, biocidal agents, functional foods and nutritional supplements.	2000	AU200149510-A; US2002086039-A1; EP1272144-A2; KR2003019333-A; JP2004500404-W; CN1455661-A; BR200109603-A
	Compositions comprising whole cell Candida species antigens and antigens from Cryptosporidium parvum and/or Clostridium difficile, useful as vaccines and in the preparation of anti-diarrhoeal nutraceuticals.	1999	AU200031174-A; US2002009429-A1
	Cosmetic, therapeutic, or nutraceutical composition for cosmetic applications, wound healing, includes naturally occurring cosmetically active material derived from eggshell membrane.	2004	US2004180025-A1
	Cranberry seed flour for use in food for non-human animals, cosmetics, skin/hair care products, nutraceuticals such as antioxidants, and pharmaceuticals, comprises a preset concentration of insoluble fiber.	2000	US6391345-B1
	Cranberry seed oil useful as food product, cosmetic and, nutraceutical comprises beta sitosterol and phosphatidylcholine.	2004	US2004170583-A1
	Determining the ability of a compound to remove a reactive oxygen species (ROS), useful in pharmaceutical and nutraceutical fields and measuring activities of antioxidants, comprises providing a cell having a ROS-inducible promoter.	2001	EP1364043-A1; US2004072218-A1; AU2002230372-A1; JP2004524025-W; CN1500149-A
	Food, flavor, pharmaceutical, nutraceutical, personal or oral care or household compositions with flavor- or aroma-modifying N-(N-(3,3-dimethylbutyl)-L-alpha-aspartyl)-L-phenylalanine 1-methyl ester.	1998	AU200031227-A; US2003008046-A1
	Functional food ingredient as e.g. meat thickener and emulsifier, comprises unrefined plant protein material.	2000	CA2338525-A1; JP2001346550-A; BR200100398-A; US6465037-B1; KR431977-B; MX2001002251-A1
	Functional food ingredient for e.g. emulsified meat, contains unrefined plant protein material obtained by hydrating particulate or flaked material with water, partially denaturing protein portion of material and drying the material.	2001	US6423364-B1
	Functional food ingredient for use as thickener in food applications comprises unrefined plant protein material which forms gel having preset gel weight in fluid ounce mixture containing water at preset ratio.	2001	US6355296-B1
	Functional food ingredient used in food applications, comprises flaked soy material having soy protein which is partially denatured such that, when combined with water, has specified gel strength and gel weight.	2000	EP1129626-A2; AU200124778-A; CA2310296-A1; ZA200101640-A; JP2001346544-A;; BR200102288-A; CN1318315-A; HU200100923-A2

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	Functional food ingredient used, e.g. as emulsifier, has unrefined plant protein material having specified gel weight, gel strength, viscosity, nitrogen solubility index, water hydration capacity, and salt tolerance index.	2000	EP1135993-A2; ES2165340-T1
	Genetically manipulating biologically active 4'-O-methylated isoflavonoid for producing plants with increased disease resistance, and for accumulation of 4'-O-methylated isoflavonoid nutraceuticals in plants.	1999	AU200050187-A; EP1183376-A1; JP2004500803-W
	Glucosamine containing material suitable for human or animal consumption, useful as a nutraceutical supplement for relief from arthritis and joint pain, is derived from fermented microbial biomass.	2001	EP1362119-A1; AU2002306494-A1; US2004077055-A1; CN1496408-A
	Grinding pharmaceutical, nutraceutical, or diagnostic substances involves grinding the substance using media mill and in the presence of nonspherical grinding media.	2002	AU2003295631-A1
	Herbal health protective, promotive, and disease preventive nutraceutical herbal formulation comprises seed product, and herbs/medicinal plant product(s).	2002	US2003185913-A1
	Herbal nutraceutical composition used as food supplement comprises extract or powdered plant parts from herb(s), edible fruits, sugar, and gelling agent.	2002	US2003185911-A1; AU2002246292-A1
	Infusing e.g. phytochemicals and nutraceutical into food products to give e.g. an infused pet treat.	1998	AU9925578-A; US6440449-B1
EUA	Infusion packet for preparing nutraceutical beverage, includes support member which acts as handle for proper placement of packet in liquid and connects at least two packets into functional unit.	2000	US2002012689-A1; AU200147679-A; BR200109498-A; EP1268305-A1; CN1422230-A; JP2003528011-W; ZA200206909-A; MX2002009231-A1
	Kit designed for self producing of personalized capsules containing nutraceutical ingredient(s), comprises system operable to, e.g. receiving user selected nutraceutical ingredient(s), and instructions for preparation of capsules.	2002	US2003198693-A1
	Making of baked pet treat for, e.g. dog, includes preparing and baking wet dough containing corn flour, protein, palatability enhancer, and nutraceutical ingredient, and heat-treating once-baked product.	1999	US6228418-B1
	Manufacture of antioxidant enriched functional foods from aqueous sugar containing solution, useful in the treatment of certain oxidative diseases, comprises extraction of solution from sugar cane or sugar beet.	2002	US2003198694-A1
	Medicated tattoo for transdermal drug and nutraceutical delivery comprises a cardstock base paper, release base, clear base having an ink design, and an adhesive layer having a medicament.	2000	EP1341498-A2; AU2002246515-A1; CN1479615-A
	Medicinal composition for use in treating symptoms of cold and migraines, comprises pharmaceuticals such as decongestant, nutraceutical and base for treating ailment or symptom caused by immune response.	2001	US2002128273-A1
	Membranous bacteria useful for producing nutraceutical, comprises genomic disruption of ppsR and aerR sequence portion, or exogenous nucleic acid encoding fumarate nitrate reduction (Fnr) polypeptide.	2002	AU2003297563-A1

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EUA	Method of producing antler powder, useful as a nutraceutical.	1997	CA2227312-A; US6099867-A
	Milk preparation for use as nutraceutical, is obtained from transgenic mammal whose genome is transformed with transgene comprising polynucleotide encoding prolactin protein.	1998	US6210736-B1
	Multi-functional food base useful for preparing honey substitutes, comprises preset amount of high intensity sweetener, viscosifier, water, bulking agent and flavoring agent.	2001	EP1249177-A1; JP2002315521-A; KR2002079475-A
	Multi-functional food processor used to slice, shred, and grind food products, e.g. vegetables and fruits, includes processing rack having base plate with wedges, and tool stand with cutter.	2000	US6213008-B1
	New class of patentable drugs formed by pairing pharmaceuticals with nutraceuticals useful in the treatment of e.g. heart diseases.	2001	US2002172707-A1
	New flocculosin derivative useful as an antimicrobial, nutraceutical and agricultural chemical for treating infection by microorganisms.	2002	AU2003249810-A1
	New food, pet food, nutraceutical and pharmaceutical compositions comprising an edible carrier including a starch-containing material and a bulking agent.	1999	US6110511-A; AU9923413-A; EP1143811-A1; AU774251-B2
	New mitochondrial polypeptides encoded in the nucleus, potentially useful for diagnosing and treating disease, in drug screening, in clinical trial monitoring, and in cosmetic or nutraceutical applications.	2004	US2004204580-A1
	New nutraceutical composition used e.g. as food or beverage comprises an extract from an agricultural by-product obtained from a tropical crop and an edible carrier.	2001	US2002187239-A1; AU2002243817-A1
	Novel bitter receptor polynucleotide encoding human TAS2R protein having bitter substance binding activity, useful for producing nutraceutical or pharmaceutical compositions comprising antagonists of bitter taste receptor activity.	2002	AU2003267411-A1
	Nutraceutical beverage composition for improving general health and wellness in humans, comprises pericarp from fruit of Garcinia mangostana Linn tree.	2002	US6730333-B1; AU2003287348-A1
	Nutraceutical blend useful for the protection of photodamage to the skin and eyes induced by solar radiation comprises green tea extract, lipoic acid, selenomethionine and lutein.	2000	US6254898-B1
	Nutraceutical composition for maintaining normal blood sugar and non-enzymatic protein glycosylation levels comprises tripeptide, guanidine hydrochloride, alpha-lipoic acid, brazilin, amino acid, flavonoid, and catalase.	2001	US2003091552-A1; EP1453542-A1; AU2002343667-A1
	Nutraceutical composition for treating disorder related to excessive secretion of histamine, e.g. allergic rhinitis, has extracts of Atractylodes macrocephala kodiz, Ledebouriella seseloides (hoffm.) Wolff, and anti-allergy herb.	2002	US2003059485-A1; AU2002362599-A1
	Nutraceutical composition for treating or promoting recovery of diseased or injured mammal, e.g. human and horse, having metabolic needs due to e.g. hepatic dysfunction or digestive tract disease, comprises specified amount of fat.	2003	US2004156882-A1

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EUA	Nutraceutical composition for treatment, repair or increased production of gametocytes in e.g. humans and horses, comprises glucosamine component optionally with oil cake, acid, mineral, vitamin and functional food components.	2003	US2004156923-A1
	Nutraceutical composition used for treating e.g. cystitis, diarrhea, dysentery and eczema, comprises xanthone compounds from processed pericarp from fruit of Garcinia mangostana tree, and other juice.	2004	US2004146592-A1
	Nutraceutical composition useful for increasing number of blood cells e.g. neutrophiles comprises polysaccharide enriched from extract of beans of Glycine max (L.) Merr.	2001	US2003060449-A1; KR2004010732-A; AU2002315075-A1; JP2004531574-W
	Nutraceutical composition useful for treating atherosclerosis and restenosis comprises lithospermic acid enriched from an extract of herbs.	2001	US2002197274-A1; AU2002244153-A1
	Nutraceutical composition useful for treating e.g. allergic rhinitis comprises extracts of optional herb hedysarum or astragalus species, atractylodes species, ledebouriella species, or an anti-allergy herb.	2003	US2004137084-A1
	Nutraceutical composition, comprising cytoprotectant, phytonutrient, lubricant and carrier.	1997	US5972985-A
	Nutraceutical product comprises a blend of S-Adenosyl-L-Methionine and dietary supplement(s), used for eg. stress reduction, suppressing appetite or sleep enhancement, has a low moisture content..	1999	AU200078634-A
	Oil emulsion for liquid or solid food, cosmetic, pharmaceutical, nutraceutical or industrial product, comprises oil component, emulsifier, emulsion stabilizer, and water.	2002	AU2003238264-A1
	Oral confections useful for delivering nutraceuticals comprise a hard outer shell that slowly releases nutraceuticals into the oral cavity and a soft core with nutraceuticals for release by rapid dissolution.	1998	AU9945496-A
	Orally delivering nutraceutical products into gastrointestinal tract used for maintaining health involves infusing juice concentrate obtained from plant into pomace part.	2002	AU2003228660-A1
	Package for food product and nutraceutical comprises segments for securing food product and nutraceutical.	2000	AU200161169-A; US2003008042-A1
	Pharmaceutical composition useful in the treatment of ailment or symptoms caused by an immune response e.g. cold comprises a pain relieving and antiinflammatory pharmaceutical and a nutraceutical.	2001	US2001044410-A1
	Pharmaceutical composition useful in the treatment of ailment or symptoms caused by an immune response e.g. cold comprises an antihistamine and a nutraceutical.	2001	US2001044411-A1
	Pre-packed functional food delivery system for dry food or drink product to deliver nourishment to the consumer, especially individuals recovering from illness and accident.	1998	AU9948540-A
	Preparation of anthocyanins enriched composition for nutraceuticals, involves contacting filtered plant crude extract containing anthocyanin, with brominated polystyrene resin, and eluting anthocyanin from resin.	2000	AU200188593-A

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EUA	Preparation of anthocyanins enriched composition used for nutraceuticals and pharmaceuticals, comprises contacting filtered plant crude extract containing anthocyanin with brominated polystyrene resin and eluting anthocyanin from resin.	2001	US2002055471-A1
	Preparation of cherry nutraceutical involves comminuting cherries and separating cherry juice from cherries, refreezing the resulting cherry concentrate and separating cherry nutraceutical having specified Brix value.	2003	US2004037938-A1
	Process for the preparation of flax having elevated level of omega-3-fatty acid compared to flaxseed, useful as a nutraceutical human supplement or as an animal food supplement, comprises sprouting flaxseed for a predetermined time.	2001	EP1406515-A1; AU2002317116-A1; US2004191396-A1
	Production of an aqueous phytosterol-emulsifier composition useful as edible and nutraceutical products involves combining phytosterol, emulsifier and water to form a mixture followed by hydrothermic process.	2002	US2004014733-A1; AU2003226031-A1
	Production of nutraceutical product useful as e.g. dietary supplement or drink product involves expressing juice from plant material containing nutraceutical product, concentrating and mixing concentrate with pomace portion.	2002	US2002168429-A1
	Providing a standardized functional food product or standardized dietary supplement which has associated health benefits, from a botanical extract.	1999	AU200075921-A
	Sugarcane juice spread contains concentrated sugarcane juice with specified concentration, xanthan, carrageenan, food preservative, gelling agent, nutraceutical, and flavoring agent.	2002	US6805895-B1
	Synergistic cosmetic or pharmaceutical composition, useful for treating e.g. acne, comprises e.g. body beneficial composition comprising nutraceutical ingredients, cosmetic/drug composition, and collagen- and elastin-promoting composition.	2003	US2004146539-A1
	Testing nutraceutical by providing cells, nutraceutical, and INVADER assay detection reagents, exposing cells to nutraceutical, lysing cells; and contacting cell lysate with INVADER assay detection reagents.	2002	US2003092039-A1
	Use of a product comprising a kavalactone component and an active ingredient as an additive to potentiate and/or enhance the action of therapeutics, pharmaceuticals, nutraceuticals or botanical extracts.	2003	US2004072897-A1; AU2003282700-A1
China	Animal cephalin capsule, useful as a functional food for improving brain function and preventing osteoporosis.	2002	CN1483414-A
	Application of chrysanthemum powder in functional food.	2002	CN1399911-A
	Compositions containing triterpenoid saponins extracted from bamboo with supercritical-fluid technology, for use in therapeutic drugs, functional foods and cosmetics e.g. for cardiovascular diseases.	2002	CN1506373-A; AU2003231499-A1
	Extracted materials to make functional foods and drugs for curing mental retardation and deficiency, dementia, enuresis, increasing body's resistance to glycosuria, is obtained from shell of Xanthoceras sorbifolia.	2001	CN1349820-A; US2003096030-A1
	Functional food - used for reducing weight and raising immunity.	1998	CN1209284-A

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China	Functional food containing konjak - includes egg, soy bean powder, flour and algae.	1998	CN1218633-A
	Functional food for health-care purpose.	2000	CN1350801-A
	Functional food for improving sleep.	1997	CN1164422-A
	Functional food for lowering blood-sugar, blood-lipid and blood-pressure - comprises xylitol, purpureus aspergillus rice, biological calcium preparation and vitamin C.	1997	CN1200250-A
	Functional food for preventing and treating diabetes.	1999	CN1286040-A
	Functional food for preventing damage of mobile telephone radiation.	2001	CN1365620-A
	Functional food for protecting liver and medicine for preventing and curing hepatitis prepared from loach and its preparing process.	2000	CN1293041-A
	Functional food for reducing blood fat and promoting blood circulation.	2000	CN1339303-A
	Functional food for woman's climacterium.	1995	CN1127643-A
	Functional food made of pueraria root extract.	2000	CN1338218-A
	Functional food made of Yunnan siberian solomonseal rhizome.	2000	CN1350797-A
	Garlic deodorizing method and garlic functional food.	2001	CN1366837-A
	Health beverage contg. Astragalus membranaceus, Salvia miltiorrhiza, vitamin(s) A, C, E and B(6), and zinc cpd. - has anti-ageing, anti-cancer and anti-arteriosclerosis properties, can inhibit lipid peroxidation and reduce generation of free radicals, use	1995	AU9651412-A; CN1120412-A
	Ion medicated transgenic F-beta-1 functional food.	1999	CN1246297-A
	Liver-protecting functional food made up by using ligustrum fruit and silkworm chrysalis and its preparation method.	2003	CN1460435-A
	Melissin golden soybean powder functional food preparation.	1998	CN1253746-A
	Method for preparation of vitamin M functional foods.	1996	CN1165634-A
	Micro level functional food and its preparation.	2001	CN1375234-A
	Nutrients-enriched shark functional food.	2002	CN1461608-A
	Preparation method of functional food enriched with anti-oxidation group from sugarcane and sugarbeet.	2002	CN1484974-A
	Preparation of low polarity ginsenoside compounds and their aglucons used in formulating drugs, cosmetics and functional foods and in synthesis of other bioactive compounds by catalytic pyrolysis of raw material ginsenoside.	2002	CN1508147-A
	Preparing method for garlic superoxide dismutase (SOD) and functional food containing SOD.	2002	CN1500867-A
	Pure natural oceanic functional food preparation.	1995	CN1183244-A

Tabela dos top **depositantes** em Nutracêuticos:

Depositante ou (Corporação)	**Nº de Patentes**
GELBER	7
SON Y S	6
AMINOGEN CO LTD	5
COUNCIL SCI & IND RES	5
PROTEIN TECHNOLOGIES INT	5
AJINOMOTO	4
KOREA INST ORIENTAL MEDICINE	4

Depositantes	**Título da Patente**	**Ano de Prioridade**	**Número da Patente**
GELBER D	Composition comprising a combination of a pharmaceutical and nutraceutical, for treating an immune response of the respiratory system, particularly a cough.	2001	US2002004078-A1
	Composition used in treatment of migraine comprises pharmaceutical, nutraceutical and base.	2001	US2002034555-A1
	Composition useful for treatment of pain comprises a pharmaceutical, nutraceutical and a base.	2001	US2002006445-A1
	Medicinal composition for use in treating symptoms of cold and migraines, comprises pharmaceuticals such as decongestant, nutraceutical and base for treating ailment or symptom caused by immune response.	2001	US2002128273-A1
	Pharmaceutical composition useful in the treatment of ailment or symptoms caused by an immune response e.g. cold comprises a pain relieving and antiinflammatory pharmaceutical and a nutraceutical.	2001	US2001044410-A1
	Pharmaceutical composition useful in the treatment of ailment or symptoms caused by an immune response e.g. cold comprises an antihistamine and a nutraceutical.	2001	US2001044411-A1
GELBER D; KLEINBERGER R	Composition useful in the treatment of acid reflux disease comprises a pharmaceutical and a nutraceutical in a base.	2001	US2001043959-A1
SON Y S	Case for electronic product using nutraceuticals.	2003	KR2004064184-A

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	Fermented functional food produced from grain.	2003	KR2004063703-A
	Functional fertilizer for improving health, comprises nutraceutical-contained materials which improve biocontrol activity, prevent diseases and strengthen self-immunity.	2003	KR2004064545-A
	Functional hormone for stimulating the immune and lymphatic systems, comprises herbal extracts, nutraceuticals, pharmaceutical and nutritional active materials.	2003	KR2004064549-A
	Functional ringer's solution for stimulating the immune and lymphatic systems, comprises herbal extracts, nutraceuticals, pharmaceutical and nutritional active materials.	2003	KR2004064548-A
	Functional vitamin for stimulating immune and lymphatic systems, comprises herbal extracts, nutraceuticals, pharmaceutical and nutritional active materials.	2003	KR2004064552-A
AMINOGEN CO LTD	Anti-inflammatory composition containing extracts of natural drug stuffs and functional foods containing the same as active ingredients.	2002	KR2003005116-A
	Functional food effective for reduction of body fat by improving bowel movement and removing fecal impaction.	2002	KR2002041366-A
	Functional food useful for cleaning blood and facilitating blood circulation , using natural medicinal herbs and silk peptide.	2001	KR2001099197-A
	Natural antioxidant composition and functional food containing the same as an active ingredient.	2003	KR2003015347-A
	Stamina enhancing composition containing natural herbs extracts and functional food containing the same as active ingredient.	2003	KR2003021189-A
COUNCIL SCI & IND RES	Bioenhancing a composition comprising an extract and/or one or more bioactive fractions/isolates of Zingiber officinale, one or more additives e.g. nutrients, nutraceuticals, herbal drugs/products, and optionally, piperine.	2001	US2003170326-A1; AU2002366588-A1; EP1465646-A1
	Composition useful as bio-enhancer and bioavailability facilitator of drugs comprises an extract of Glycerrhiza family and at least one of nutraceuticals, antibiotics, anti-infective agents or anti-cancer agents.	2000	AU200128791-A
COUNCIL SCI & IND RES	Preparation of bacosides enriched fraction from the extract of herb Bacopa monniera useful as nutraceuticals involves extracting the herb with hexane, acetone, methanol and n-butanol; concentrating followed by adding a stabilizer.	2002	AU2002348723-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
	Sugarcane juice spread contains concentrated sugarcane juice with specified concentration, xanthan, carrageenan, food preservative, gelling agent, nutraceutical, and flavoring agent.	2002	US6805895-B1
	Sugarcane juice spread, e.g. ginger and cumin flavored sugarcane juice spread, comprises concentrated sugarcane juice, xanthan, carrageenan, food preservative, gelling agent and nutraceutical.	2002	CA2378890-A1; BR200200949-A
PROTEIN TECHNOLOGIES INT INC	Functional food ingredient used, e.g. as emulsifier, has unrefined plant protein material having specified gel weight, gel strength, viscosity, nitrogen solubility index, water hydration capacity, and salt tolerance index.	2000	EP1135993-A2; ES2165340-T1
	Functional food ingredient for e.g. emulsified meat, contains unrefined plant protein material obtained by hydrating particulate or flaked material with water, partially denaturing protein portion of material and drying the material.	2001	US6423364-B1
	Functional food ingredient for use as thickener in food applications comprises unrefined plant protein material which forms gel having preset gel weight in fluid ounce mixture containing water at preset ratio.	2001	US6355296-B1
PROTEIN TECHNOLOGIES INT INC; SOLAE LLC	Functional food ingredient used in food applications, comprises flaked soy material having soy protein which is partially denatured such that, when combined with water, has specified gel strength and gel weight.	2000	EP1129626-A2; AU200124778-A; CA2310296-A1; ZA200101640-A; JP2001346544-A; BR200102288-A; CN1318315-A; HU200100923-A2
	Functional food ingredient as e.g. meat thickener and emulsifier, comprises unrefined plant protein material.	2000	CA2338525-A1; JP2001346550-A; BR200100398-A; US6465037-B1; KR431977-B; MX2001002251-A1
AJINOMOTO CO INC	Industrial production of dipeptides with use of L-amino acid amide hydrolase by culturing with microorganisms or processed microbial cells, for application in drugs and functional foods.	2001	EP1411060-A1; KR2004026658-A; AU2002355232-A1; JP2003515546-X
	Peptide synthase and encoded gene for industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.	2001	EP1411116-A1; AU2002355234-A1; JP2003515658-X
AJINOMOTO CO INC; AJINOMOTO KK	Preparation of nutraceutical chips useful as health food, involves heating vegetables, seaweed, edible polymeric material and calcium salt, forming thin film and heat-drying and/or vacuum drying thin film-like molding.	2002	JP2003310179-A; US2003232110-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
AJINOMOTO CO INC; YOKOZEKI K; SUZUKI S	Industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.	2001	EP1411062-A1; US2004137558-A1; AU2002355233-A1; JP2003515548-X
KOREA INST ORIENTAL MEDICINE	Antivirus medicine and functional food for remedy and prevention of a cold.	1998	KR99085818-A
	Antivirus medicine and functional food for remedy and prevention of a cold.		KR99085819-A
	Growth hormone secretagogue and functional food containing diosin or plant extract containing the same.	2002	KR2003070283-A
	Growth hormone secretagogue and functional food containing spicatoside a or liriope platyphylla extract containing the same.	2002	KR2003070282-A

11.2 Qualidade de Vida

Para este termo foram encontradas 6 patentes focadas, sendo 3 norte-americanas:

Tabela dos **países depositantes** em Qualidade de Vida:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Composition useful for controlling tumor-induced weight loss e.g. cancer cachexia comprises leucine and at least one more amino acid.	2003	US2004087490-A1; AU2003266400-A1
	New capillary feed marking instrument for producing edible colored indicia on a feed substrate comprises an elongated hollow cylindrical body, reservoir, edible coloring liquid and a marking tip containing a fibrous tip and a cap.	1995	US6299374-B1; AU200145604-A
	Dietary food enhancing agent for fortifying food prods. - includes calcium, magnesium and phosphorus.	2000	EP831728-A2; US6039978-A
Escritório Europeu (EP)	Providing pet with benefit relating to effective assimilation of lipid or lipid fraction, comprises administering edible composition containing ingredients that maintains, promotes, or enhances pet capacity to digest lipid efficiently.	2002	EP1350435-A2; AU2003224038-A1
Grã-Bretanha	Nutritional composition useful for the treatment of a bone condition comprises a source of protein, a source of carbohydrate, and a source of fat, calcium, magnesium, zinc, vitamin D or vitamin K.	2001	EP1351584-A2; AU2002235836-A1
Japão	Bioactive composition for treating and preventing tumor and cancer, contains Ganoderma pheifferi, Ganoderma lipsiense, Trametes hirsutus and/or Japanese Panax ginseng as active ingredients.	2001	JP2003171306-A

Na tabela abaixo são listados os títulos, os números e os anos de prioridade de cada patente pelos depositantes. Cabe ressaltar que 5 patentes têm prioridade em nível mundial.

Tabela dos **depositantes** em Qualidade de Vida:

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
SOC PROD NESTLE SA	Nutritional composition useful for the treatment of a bone condition comprises a source of protein, a source of carbohydrate, and a source of fat, calcium, magnesium, zinc, vitamin D or vitamin K.	2001	EP1351584-A2; AU2002235836-A1
	Providing pet with benefit relating to effective assimilation of lipid or lipid fraction, comprises administering edible composition containing gredients that maintains, promotes, or enhances pet capacity to digest lipid efficiently.	2002	EP1350435-A2; AU2003224038-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
CAMPBELL SOUP CO	Dietary food enhancing agent for fortifying food prods. - includes calcium, magnesium and phosphorus.	1995	EP831728-A2; US6039978-A
GOINO T	Bioactive composition for treating and preventing tumor and cancer, contains Ganoderma pheifferi, Ganoderma lipsiense, Trametes hirsutus and/or Japanese Panax ginseng as active ingredients.	2001	JP2003171306-A
NAOR D; MICHAEL J	New capillary feed marking instrument for producing edible colored indicia on a feed substrate comprises an elongated hollow cylindrical body, reservoir, edible coloring liquid and a marking tip containing a fibrous tip and a cap.	2000	US6299374-B1; AU200145604-A
NOVARTIS NUTRITION AG	Composition useful for controlling tumor-induced weight loss e.g. cancer cachexia comprises leucine and at least one more amino acid.	2003	US2004087490-A1; AU2003266400-A1

11.3 Organismos Geneticamente Modificados

Este termo apresentou 3 patentes focadas indexadas no período estudado, sendo 2 da Coréia:

Tabela dos **países depositantes** em OGM:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Coréia	GMO detective kit and primer for polymerase chain reaction (PCR).	2002	KR2001106643-A
	Detection primers for genetically modified organism(gmo) and manufactured goods, primers and probes for quantification of genetically modified organism, and detection kit using the same.	2000	KR2003084184-A
EUA	Identification of genetically modified (GMO) grain, useful for distinguishing between GMO and non-GMO grain, comprising subjecting grain to near infrared spectroscopy.	1999	AU200050430-A

A seguir são listados o título, o número e o ano de prioridade de cada patente.

Tabela dos **depositantes** em OGM:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
GD BIOTECH CO LTD	Detection primers for genetically modified organism(gmo) and manufactured goods, primers and probes for quantification of genetically modified organism, and detection kit using the same.	2002	KR2003084184-A
NEXGEN;NEXGEN ASSOC INC	GMO detective kit and primer for polymerase chain reaction (PCR).	2000	KR2001106643-A
UNIV IOWA STATE RES FOUND INC	Identification of genetically modified (GMO) grain, useful for distinguishing between GMO and non-GMO grain, comprising subjecting grain to near infrared spectroscopy.	1999	AU200050430-A

11.4 Produção de Vacinas em Plantas e Animais

Este termo apresentou 52 patentes focadas, sendo 24 depositadas nos Estados Unidos, conforme tabela abaixo:

Tabela **dos top países depositantes** em Produção de Vacinas em Plantas e Animais:

País Depositante	Nº de Patentes
EUA	24
Japão	6
Rússia	5
Alemanha	3

As patentes destes países mais representativos são mostradas a seguir:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Accelerating growth of microorganisms in industrial processes, useful e.g. in coal gasification or vaccine production, by adding enzymatic protein hydrolyzate.	2003	AU2003217325-A1; US2004203134-A1
	Enhancing immune response to antigen using Interleukin-13 - useful in vaccine production, especially for antigens not responsive to known adjuvants e.g. Tetanus Toxoid and to treat e.g. HIV or cancer.	1997	AU9866484-A
	Hepatitis E virus proteins - useful for diagnosis or vaccine production the virus.	1995	US5824649-A
	High molecular weight proteins of non-typeable Haemophilus influenzae - useful for vaccine production.	1996	AU9725873-A; EP900232-A1; CN1222914-A; NZ332322-A; MX9808107-A1; JP2001503602-W; BR9708413-A; US2002164354-A1; RU2206610-C2
	Human cytomegalovirus deletion mutants - useful for vaccine production.	1994	US5846806-A
	Improved method of introducing combinatorial mutations in DNA of interest, useful in producing combinatorial arrays of viral proteins for use in multiple vaccine production.	2003	WO2004072246-A2
	In situ delivering of genomes to cell, where cells are transfected or transduced, useful in generating vectors for vaccine production, immunotherapy and gene therapy or for inducing immune response or treating a particular disease or cancer.	2002	AU2003241334-A1
	Microcapsules containing bovine herpes virus immunogen - in spermine-alginate membrane, useful for vaccine production.	1997	NZ330251-A; AU9863511-A; JP10316586-A; CN1196931-A; CA2229430-A; ZA9803327-A; BR9801435-A; MX9803277-A1; US6270800-B1; EP873752-B1; DE69822542-E; ES2216242-T3
EUA	New composition, useful for vaccine production, comprises antigen or antigenic determinant and non-natural molecular scaffold comprising organizer and core particle such as bacterial pilus or pilin protein.	2000	AU200152458-A; EP1278542-A2; US2003054010-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New DNA sequences of enterically transmitted non-A/non-B (ET-NANB) hepatitis viral agent, useful in diagnosing infection by an enterically transmitted agent (e.g. ET-NANB virus), as well as in vaccine production.	1998	US6229005-B1
	New isolated and purified Hepatitis C virus E1 peptides - useful for vaccine production or diagnostic purposes.	1995	US5866139-A
	New Neisseria mutants useful for antibody or vaccine production.	1995	US5976536-A
	Novel hTERT-immortalized cell line (human telomerase reverse transcriptase) useful for human vaccine production and preparation of antigen, such as a virus or virus-derived agent.	2000	AU200182290-A
	Producing virus-like particles in vitro useful for e.g. immunisation - especially hepatitis C virus-like particles for diagnosis of hepatitis C and prevention and therapy e.g. by vaccine production.	1996	AU9723479-A; EP941337-A1; JP2001504337-W; US6387662-B1
	Producing viruses e.g. reovirus from cell cultures for vaccine production, involves extracting viruses from cell culture infected by the virus by adding a detergent to the culture and incubating, and collecting the virus.	2001	US2002168764-A1; EP1370643-A1; BR200207527-A; AU2002242520-A1; JP2004520841-W; MX2003007535-A1; ZA200306228-A
	Production of a purified live Japanese encephalitis virus preparation, useful for vaccine production includes microfiltration, ultrafiltration and gel filtration.	1997	US6207439-B1
	Promoting dendritic cell proliferation or differentiation for tumor vaccine production, involves contacting the dendritic cells with an active agent that promotes dendritic cell proliferation or differentiation.	2000	AU200171926-A; US2002165141-A1
	Purified recombinant human immunodeficiency virus glycoprotein 120 - useful in immunoassays and for antiserum or vaccine production.	1994	US5614612-A
	Recombinant human cytomegalovirus lacking US2 region - useful for cytomegalovirus vaccine production and immunisation.	1995	US5843458-A
	Replicating high growth influenza virus strains in mammalian cell culture - using maintained, low concentrations of trypsin, useful for mammalian influenza vaccine production.	1996	AU9727229-A; ZA9702887-A; NO9804565-A; EP895535-A1; ES2139553-T1; US6344354-B1
	Sustainable chicken cell line infected with Marek's disease virus - for vaccine production against Marek's disease in poultry.	1996	CA2185407-A; JP9173059-A; EP770677-A3; AU9723568-A; JP10004956-A; BR9703544-A; KR98002250-A; US5874303-A; MX9702769-A1; CN1170760-A
	Sustainable Marek's disease virus (MDV)-infected chicken cell line - useful for vaccine production and determination of MDV characteristics.	1995	EP775743-A3
EUA	Urabe mumps virus strain - useful for vaccine production.	1996	CA2196238-A; US5783194-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Vaccine production for preventing replication of live tumor cells in mammals, involves inactivating infectious particles by adding endogenous photosensitizer, exposing inactivated particle to light and suspending in solution.	2001	AU2002366708-A1; EP1456359-A2
Japão	Antigenic protein from infectious laryngotracheitis virus and DNA coding for it - which is incorporated into recombinant avian virus for vaccine production.	1996	AU9738678-A; JP10510591-X; EP953642-A1; US6312696-B1
	Established cell line derived from dog, with sensitivity to viruses such as morbilli virus and canine distemper virus, useful for virus detection and culture, including use in vaccine production.	2002	JP2003339372-A
	Polypeptide(s) highly reactive to chick anaemia virus-infected chicken serum - are used for antibody and vaccine production for protection against chicken anaemia virus.	1995	JP9071599-A
	Proliferation of hepatitis C virus for vaccine production - using Epstein-Barr virus or Epstein-Barr virus nucleus antigen positive cells.	1998	JP2000050862-A
	Stable long-term preservable plant virus vaccine production - useful in agriculture and horticulture.	1997	JP10203901-A
	Support for animal-cell culture, useful for pharmaceutical and vaccine production, comprises resin composite particle which has resin microparticle distributed on surface of resin particle.	2001	JP2003169669-A
Rússia	Combined rabies and distemper vaccine production - comprises mixing live distemper vaccine grown in green marmoset kidney cells with anti-rabies vaccine inactivated by exposure to UV light.	1995	RU2080125-C1
	New bacteria strain Citrobacter diversus N 244 displays complex of pathogenic factors, and can be used in vaccine production.	1995	RU2105807-C1
	New bacteria strain Klebsiella pneumoniae GISK N 245 - shows complex of pathogenic factors, and can be used in vaccine production.	1995	RU2105809-C1
	New bacteria strain Rettgerella rettgeri GISK N 243 - shows complex of pathogenic factors, and can be used in biotechnology in vaccine production.	1995	RU2105808-C1
	Production of microbial spores - comprises use of culture medium comprising culture liquids from initial culturing stage and vaccine production.	1994	RU2102472-C1
Alemanha	Genetically modified CELO viruses - useful for gene therapy or vaccine production, e.g. against cancer.	1996	DE19615803-A1; EP904394-A1; JP2000509268-W; MX9808653-A1; US2002081279-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Protein expression and secretion system - encoding AIDAc fusion protein, useful in vaccine production.	1996	DE19641158-A1
	Use of hyaluronic acid fragments in vaccine production, especially for cancer treatment.	1998	AU9957416-A; DE19853066-A1

A seguir encontram-se os depositantes com 2 patentes no período considerado, e suas respectivas patentes:

Tabela dos top **depositantes** em Produção de Vacinas em Plantas e Animais:

Depositante ou (Corporação)	Nº de Patentes
AMERICAN CYANAMID CO	2
AVENTIS PASTEUR; PASTEUR MERIEUX SERUMS & VACCINS	2
GENELABS TECHNOLOGIES	2
UNIV MICHIGAN STATE	2
US DEPT HEALTH & HUMAN SERVICES	2
UNIV BASHKIR MED	2

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
AMERICAN CYANAMID CO; EASTERN VIRGINIA MEDICAL SCHOOL	Human cytomegalovirus deletion mutants - useful for vaccine production.	1995	US5846806-A;
AMERICAN CYANAMID CO	Recombinant human cytomegalovirus lacking US2 region - useful for cytomegalovirus vaccine production and immunisation.	1994	US5843458-A
AVENTIS PASTEUR; PASTEUR MERIEUX SERUMS & VACCINS AS; GERDIL C	Poly(vinyl pyrrolidone) as a serum substitute in culture of adherent animal cells, useful in growing viruses for vaccine production, promotes growth and reduces mortality.	1999	FR2801900-A1; AU200121828-A; EP1238057-A2; US2003104613-A1;
AVENTIS PASTEUR; PASTEUR MERIEUX SERUMS & VACCINS SA; MERIAL SAS; AVENTIS PASTEUR SA; MERIAL	Albumin-free medium for propagating and multiplying viruses in cultured cells, especially for vaccine production.	1998	FR2775983-A1; AU9927352-A; EP1062324-A2; BR9908744-A; CZ200003327-A3; HU200101081-A2; SK200001288-A3; CN1301297-A; KR2001072556-A; JP2002506636-W; NZ506872-A; MX2000008511-A1
GENELABS TECHNOLOGIES INC; US DEPT HEALTH & HUMAN SERVICES	New DNA sequences of enterically transmitted non-A/non-B (ET-NANB) hepatitis viral agent, useful in diagnosing infection by an enterically transmitted agent (e.g. ET-NANB virus), as well as in vaccine production.	1995	US6229005-B1;
GENELABS TECHNOLOGIES INC	Hepatitis E virus proteins - useful for diagnosis or vaccine production the virus.	1998	US5824649-A

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
UNIV MICHIGAN STATE	Sustainable Marek's disease virus (MDV)-infected chicken cell line - useful for vaccine production and determination of MDV characteristics.	1995	EP775743-A3;
	Sustainable chicken cell line infected with Marek's disease virus - for vaccine production against Marek's disease in poultry.	1996	CA2185407-A; EP770677-A3; JP10004956-A; BR9703544-A; KR98002250-A; AU9723568-A; US5874303-A;MX9702769-A1; CN1170760-A
US DEPT HEALTH & HUMAN SERVICES; GENELABS TECHNOLOGIES INC	New DNA sequences of enterically transmitted non-A/non-B (ET-NANB) hepatitis viral agent, useful in diagnosing infection by an enterically transmitted agent (e.g. ET-NANB virus), as well as in vaccine production.	1996	US6229005-B1
US DEPT HEALTH & HUMAN SERVICES	Producing virus-like particles in vitro useful for e.g. immunisation - especially hepatitis C virus-like particles for diagnosis of hepatitis C and prevention and therapy e.g. by vaccine production.	1998	AU9723479-A; EP941337-A1; JP2001504337-W; US6387662-B1
UNIV BASHKIR MED	New bacteria strain Rettgerella rettgeri GISK N 243 - shows complex of pathogenic factors, and can be used in biotechnology in vaccine production.	1995	RU2105808-C1
	New bacteria strain Klebsiella pneumoniae GISK N 245 - shows complex of pathogenic factors, and can be used in vaccine production.		RU2105809-C1

12 Tema: Metagenômica / Prospecção Gênica

Para os anos de 1994 a 2004 foi encontrada 1 patente focada sobre este tema indexada na base.

Tabela do **país depositante** em Metagenômica:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Dispatch system for generating prospective customer list, has unit which generates prospective customer list and mails advertisement to prospective customer.	2001	JP2003099659-A

Tabela do **depositante** em Metagenômica:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
CHIZAI JOHO KENKYUSHO YG	Dispatch system for generating prospective customer list, has unit which generates prospective customer list and mails advertisement to prospective customer.	2001	JP2003099659-A

Salienta-se que nenhum termo relacionado a este tema foi objeto de patenteamento.

13 Tema: Mudanças climáticas globais

Sobre o tema “mudanças climáticas globais”, apenas 1 patente foi identificada, do Japão, conforme tabela abaixo:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Atmospheric air carbon dioxide concentration reduction method for reducing global warming involves performing methane fermentation of biomass taking carbon dioxide from atmosphere to produce hydrogen and solid carbon.	2001	JP2003103235-A

Tabela do **depositante** em Mudanças Climáticas Globais:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
TADA T; KAJIMA CORP	Atmospheric air carbon dioxide concentration reduction method for reducing global warming involves performing methane fermentation of biomass taking carbon dioxide from atmosphere to produce hydrogen and solid carbon.	2001	JP2003103235-A

TERMOS

Dos 2 termos sugeridos sobre esse tema, apenas 1 foi objeto de patenteamento, “vetores de transformação gênica”, com 2 patentes:

13.1 Vetores de Transformação Gênica

Foram encontradas 2 patentes sobre vetores de transformação gênica, ambas japonesas.

Tabela dos **depositantes** em Vetores de Transformação Gênica:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Novel transgenic plant introduced with xylo glucanase gene and having increased cellulose content and growth rate, useful as e.g. timber, paper pulp.	2002	JP2004187618-A
	New salt-tolerant transgenic plant of Eucalyptus genus comprising chromosomal DNA which comprises an introduced gene encoding choline oxidase.	2001	JP2003143988-A

Tabela dos **depositantes** em Vetores de Transformação Gênica:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
KANSAI TLO KK	Novel transgenic plant introduced with xylo glucanase gene and having increased cellulose content and growth rate, useful as e.g. timber, paper pulp.	2002	JP2004187618-A
AE NIPPON SEISHI KK	New salt-tolerant transgenic plant of Eucalyptus genus comprising chromosomal DNA which comprises an introduced gene encoding choline oxidase.	2001	JP2003143988-A

14 Tema: Programas de Descoberta

Este tema não foi objeto de patenteamento, no entanto, 7 termos apresentaram patentes indexadas entre os anos de 1994 e 2004, conforme tabela abaixo:

TEMA	TERMOS	Nº de Patentes focadas
Programas de Descoberta	Clonagem	543
	Stem Cells	1205
	Genômica Funcional	16
	Farmacogenética	17
	Engenharia Genética	182
	Nanobiotecnologia	56
	Proteômica	92

14.1 Clonagem

Quanto aos países depositantes, a liderança é dos Estados Unidos, com 258 patentes das 543 referentes a este termo, conforme a tabela abaixo. Destaca-se a presença do Brasil, com 7 patentes:

Tabela dos top **países depositantes** em Clonagem e respectivo número de depósitos do Brasil:

País Depositante	Nº de Patentes
EUA	258
Japão	91
China	61
Escritório Europeu - EP	28
Alemanha	25
Coréia	16
Grã-Bretanha	14
França	8
Brasil	**7**

Cabe ressaltar que, em função do elevado número de patentes por país, não foi feita a tabela com País, Título, Ano de Prioridade e Nº da Patente.

Neste termo, apenas sete depositantes apresentam 7 ou mais patentes, sendo considerados “top”. Estas empresas constam da tabela abaixo:
Tabela dos top **depositantes** em Clonagem:

Depositante ou (Corporação)	Nº de Patentes
NEW ENGLAND BIOLABS	16
INVITROGEN CORP	11
LIFE TECHNOLOGIES	10
ROCHE DIAGNOSTICS	9
UNIV SHANDONG	9
KAGAKU GIJUTSU	8
BOEHRINGER MANNHEIM	7

As 16 patentes da empresa NEW ENGLAND BIOLABS são apresentadas a seguir. Vale ressaltar que não há parcerias nos depósitos.

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
NEW ENGLAND BIOLABS	Cloning and expressing an endonuclease gene by comprising two plasmid system.	1999	US6048719-A
	Cloning and expressing SgrAI endonuclease gene by using cross-protective gene MspI methylase.	1998	US6048731-A
	Cloning intact genes used to isolate genes for restriction enzymes.	1998	EP1086244-A; EP1086244-A1; JP2002517260-W
	Cloning Thermus species (Ts) plasmid genes comprises transforming Escherichia coli with cloned recombinant plasmid containing Ts and E.coli origins of replication, isolating cloned recombinant plasmid from E.coli and transforming Ts cell.	1998	US6207377-B1
	Direct cloning of nuclease genes - using a host cell containing a DNA damage-inducing promoter fused to an indicator/reporter gene.	1994	US5498535-A; JP10500853-W; DE69532725-E; EP1431388-A2
	DNA encoding BssHII restriction and methylase enzymes - useful for molecular cloning and recombinant production of the enzymes.	1997	US5786195-A; JP10313883-A; EP885964-B1; DE69814526-E
	DNA encoding restriction endonuclease FseI - useful in DNA manipulation, also new method for cloning endonuclease and associated methylase.	1994	US5543308-A; JP8224088-A; EP712933-B1; DE69533434-E
	New BsrFI restriction endonuclease and BsrFI methylase genes from Bacillus stearothermophilus, useful as tools for creating recombinant molecules, especially for molecular cloning and gene characterization.	1999	US6066487-A
NEW ENGLAND BIOLABS	New DNA coding for the AsiSI restriction endonuclease or AsiSI methylase, useful for cleaving DNA molecules into small fragments for molecular cloning and gene characterization.	2001	US2003104388-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New DNA segment coding for the BsmBI restriction endonuclease and/or BsmBI methylase, useful for molecular cloning and gene characterization, and in producing restriction endonucleases and modification methylases.	2001	EP1298212-A2; US2003100052-A1; JP2003230390-A
	New isolated DNA encoding BsrGI restriction endonuclease and BsrGI methylase, obtainable from Bacillus stearothermophilus GR75, useful for cleaving DNA molecules into small fragments for molecular cloning/gene characterization.	2003	WO2004063328-A2
	New isolated thermostable DNA polymerase - obtd. from isolate 9 deg. N-7, useful for amplifying, detecting and/or cloning nucleic acid sequences.	1994	JP8168376-A; US5756334-A; EP701000-B1; DE69519968-E
	New method for cloning and producing the SwaI restriction endonuclease from Staphylococcus warneri which can be produced in abundance from Eschericia coli.	1999	EP1048731-A2; JP2000316589-A; US6245545-B1
	New RsaI restriction endonucleases obtained from Rhodopseudomonas sphaeroides, useful in cleaving DNA molecules into fragments for molecular cloning and gene characterization, or as useful tools for manipulating DNAs.	2000	US6210945-B1; EP1164189-A1; JP2002306181-A
	New thermostable DNA polymerase I obtainable from Rhodothermus obamensis (JCM 9785), useful in amplifying, detecting and/or cloning nucleic acid sequences.	2002	US2003165890-A1
	Vector for use in cloning or in-vitro transcription - with polylinker flanked by opposing promoters having restriction sites.	1995	US5691140-A
INVITROGEN CORP	Integration sequence containing at least one recombination site, useful for in vitro or in vivo manipulation, e.g. cloning or sequencing, of nucleic acid.	1999	AU200114378-A; EP1224304-A1; JP2003512075-W; CN1399684-A; NZ518503-A
	Methods for apposing nucleic acids comprising an expression signal and a gene/partial gene, using recombinatorial cloning by incubating the nucleic acids in the presence of a recombination protein under conditions for recombination.	1999	US6270969-B1
	New composition comprises at least two isolated recombination proteins, at least one first nucleic acid molecule, and at least one second nucleic acid molecule, useful for recombinational cloning of DNA segments.	2004	US2004219673-A1
	New composition for recombinational cloning of nucleic acid molecules, comprises at least one recombination protein and at least one Fis protein or its fragment.	2001	US2003077804-A1; EP1390394-A2; AU2002258868-A1; JP2004531259-W
	New isolated nucleic acid molecule comprises one or more recombination sites and one or more topoisomerase recognition sites and/or one or more topoisomerases, useful in recombinational cloning.	2001	EP1349917-A1; AU2002248173-A1; CN1489627-A; JP2004522428-W; NZ526194-A
INVITROGEN CORP	New isolated nucleic acid molecule comprising all or a portion of at least two Ter sites, useful for molecular biology applications, e.g. cloning, selecting or purifying a nucleic acid of interest or producing single-stranded DNA.	2002	AU2003257109-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New isolated nucleic acid molecules having one or more recombination sites and encoding an amino acid sequence tag, useful for recombinational and/or topoisomerase-mediated cloning methods for producing fusion proteins.	2002	US2004132133-A1; AU2003251797-A1
INVITROGEN CORP; LIFE TECHNOLOGIES INC	Isolated nucleic acid molecules encoding an attB1, attB2, attP1, attP2, attL1, attL2, attR1, and attR2 nucleotide sequence useful for the recombinational cloning of polypeptides.	1999	AU200036143-A; EP1173460-A1; JP2002537790-W; NZ525134-A
	New toxic gene resistant Escherichia coli cells having mutations in their gyrase A and endA genes, useful for amplifying and cloning recombinant genetic constructs and for cloning and propagating toxic genes that act upon DNA gyrase.	1999	AU200033875-A; EP1159402-A1; JP2002537800-W; US2004053412-A1
	Composition for use in cloning or subcloning one or more desired nucleic acid molecules comprises comprising at least one ribosomal protein and at least one recombination protein.	1998	AU200017216-A; EP1131078-A1
INVITROGEN CORP; SLOAN KETTERING INST CANCER RES	Use of topoisomerase enzymes - for covalently joining a DNA strand to an RNA strand, used particularly for isolating and cloning full-length gene sequences.	1997	JP2001507241-W; US2004058417-A1; EP920526-B1; AU2002300348-A1
LIFE TECHNOLOGIES INC	Bacterium containing F' episome material to increase transformation efficiency - particularly Escherichia coli, for generation of cDNA libraries or cloning.	1997	AU9722575-A; EP877794-A1; JP2002502232-W; US2004152184-A1
	Cloning of nucleic acid molecules - by treating amplified or synthesised nucleic acids with a polymerase inhibitor prior to ligation into a vector.	1997	AU9889099-A; US6140086-A
	DNA and vectors comprising engineered cloning sites - useful for recombinational cloning.	1996	US5888732-A
	In vitro cloning of nucleic acid involves mixing vectors comprising recombination sites and/or nucleic acid, incubating mixture to produce chimeric molecule, contacting hosts with mixture and selecting host.	1998	US6171861-B2
	New nucleic acid cloning methods.	1998	EP1025217-A1; CN1280614-A; JP2002500861-W; NZ504214-A; US2004171157-A1; AU2002325588-A1
	Nucleic acid comprising toxic gene linked to regulatory regions that include a cloning site - for DNA insertion, resulting in inactivation of the toxin gene, allowing positive selection for transformants, also related vectors and enzyme composition for the process.	1997	WO9838205-A1
LIFE TECHNOLOGIES INC; INVITROGEN CORP	Isolated nucleic acid molecules encoding an attB1, attB2, attP1, attP2, attL1, attL2, attR1, and attR2 nucleotide sequence useful for the recombinational cloning of polypeptides.	1999	AU200036143-A; EP1173460-A1; JP2002537790-W; NZ525134-A
LIFE TECHNOLOGIES INC	New toxic gene resistant Escherichia coli cells having mutations in their gyrase A and endA genes, useful for amplifying and cloning recombinant genetic constructs and for cloning and propagating toxic genes that act upon DNA gyrase.	1999	AU200033875-A; EP1159402-A1; JP2002537800-W; US2004053412-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Composition for use in cloning or subcloning one or more desired nucleic acid molecules comprises comprising at least one ribosomal protein and at least one recombination protein.	1998	AU200017216-A; EP1131078-A1
LIFE TECHNOLOGIES INC; GRUBER C E; TRINH T Q	Synthesis of nucleic acids, for the cloning, amplification and sequencing of nucleic acids.	1998	US2002064837-A1

14.2 Stem Cells

Em termos de país depositante, os Estados Unidos lideram no termo “stem cells”, com 731 das 1205 patentes focadas em Steam Cells, conforme a tabela a seguir.

Tabela dos top **países depositantes** em Stem Cells:

País Depositante	Nº de Patentes
EUA	731
Japão	208
Alemanha	49
China	44
Grã-Bretanha	34
Escritório Europeu - EP	21
Coréia	21
França	19
Austrália	18
Canadá	8

Com relação aos depositantes, 8 empresas, uma Universidade e um depositante individual formam o grupo dos top depositantes, como mostra a tabela abaixo:

Tabela dos top **depositantes** em Stem Cells:

Depositante ou (Corporação)	Nº de Patentes
OSIRIS THERAPEUTICS	36
STEM CELL THERAPEUTICS	25
ASAHI	20
NEUROSPHERES HOLDINGS	18
CHILDRENS HOSPITAL	15
THOMSON J A	15
GERON CORP	14
KAGAKU GIJUTSU	14
SYSTEMIX INC	14
UNIV CASE WESTERN RESERVE	14

Cabe ressaltar que, em função do elevado número de patentes por país, não foi feita a tabela com País, Título, Ano de Prioridade e Nº da Patente.

As patentes da empresas OSIRIS THERAPEUTICS, líder com 36 patentes, são mostradas na tabela a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
OSIRIS THERAPEUTICS	A composition comprising isolated human mesenchymal stem cells in a biocompatible matrix, useful for producing adipocytes for implantation into a patient for tissue augmentation following trauma or cosmetic surgery.	2000	US6709864-B1
	Accelerating osteogenesis from mesenchymal stem cells.	1997	WO9911287-A; WO9911287-A1; AU9891270-A; US6022540-A; US6379953-B1
	Administration of cardiomyocyte producing mesenchymal stem cells into the heart - to produce cardiomyocytes in the heart, e.g., for repairing damaged striated cardiac muscle.	1997	WO9903973-A; EP1007631-A; WO9903973-A1; AU9884014-A; EP1007631-A1; JP2002511094-W; US6387369-B1; US2003103951-A1
	Chondrogenic differentiation of mesenchymal stem cells - includes chondroinductive agent in contact with stem cells, which are in three dimensional format.	1996	WO9832333-A; EP948255-A; WO9832333-A1; AU9855911-A; EP948255-A1; JP2001512304-W; AU742638-B; US2003026786-A1; CA2274122-C
	Compsns. useful in muscle regeneration and treatment of muscular dystrophy - comprise a mixt. of isolated human muscle precursor cells and isolated human mesenchymal stem cells.	1995	WO9639035-A; EP852463-A; WO9639035-A1; AU9660396-A; EP852463-A1; AU706026-B; JP11507047-W
	Connective tissue generation in vivo - by administering human mesenchymal stem cells.	1995	US5811094-A
	Cryo-preserved human mesenchymal stem cell preparation which can differentiate - into cells of several connective tissue types and retain osteogenic potential following cryo-preservation and extensive sub-culture.	1996	WO9739104-A; WO9739104-A1; AU9727304-A
	Distinguishing between undifferentiated and differentiated mesenchymal stem cells - from relative expression of p21CIP1, also indentifying inducers of these cells, cell competence and agents that induce expression of bone morphogenic protein receptors.	1997	WO9835022-A1; AU9861444-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Enhancing engraftment of hematopoietic progenitor cells in an individual comprises administering isolated homogenous mesenchymal stem cells and hematopoietic progenitor cells.	1998	US6010696-A
	Immunocompetent post-natal animal of first species useful for producing xenogenic implants includes mesenchymal stem cells from animal of second species.	2000	WO200240061-A; WO200240061-A2; AU200239306-A; US2002129392-A1
	Implant for repairing tissue defects in animals has a contracted gel matrix formed in a planar mat and mesenchymal stem cells in the gel matrix.	1998	US6174333-B1
	Inducing differentiation of mesenchymal stem cells to adipocytes - by treating with glucocorticoid and agent that increases intracellular levels of cyclic adenosine mono:phosphate, used to produce cells for implantation, e.g. in reconstructive surgery.	1996	WO9804682-A; EP954565-A; WO9804682-A1; AU9737290-A; US5827740-A; EP954565-A1; JP2001523084-W; AU200135215-A; AU765354-B; AU2003234740-A1
	Inducing human mesenchymal stem cells to differentiate into adipocytes, useful for research or surgery, comprises contacting the cells with defined inducer compounds.	1998	US6322784-B1
	Inhibiting differentiation of hematopoietic stem cells into osteoclasts, comprises treating the stem cells with a peroxisome proliferator-activated receptor-gamma agonist.	1999	US6239157-B1
	Isolated human mesenchymal stem cells can differentiate into cells of more than 1 connective tissue type - useful for therapeutic or diagnostic purposes, e.g. to regenerate damaged mesenchymal cells in vivo or to produce mesenchymal tissues in vitro.	1994	US5486359-A
	Maintaining human haematopoietic stem cells in vitro.	1998	WO9964566-A; WO9964566-A2; US6030836-A; AU9943365-A; EP1108011-A2; JP2002517227-W
	Mesenchymal stem cells useful for treatment of mesenchymal stem cell-deficient patients.	1998	WO9961587-A; EP1082410-A; WO9961587-A1; AU9942213-A; EP1082410-A1; US6387367-B1
	Method for obtaining human mesenchymal stem cells - comprises administering growth factor to patient which increases amount of mesenchymal cells in peripheral blood which can then	1997	WO9901145-A; EP1028737-A; WO9901145-A1; AU9884766-A; EP1028737-A1;

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	be recovered.		US6261549-B1
	Method for regenerating articular cartilage defects - comprises administering human mesenchymal stem cells.	1997	WO9851317-A; EP989855-A; WO9851317-A1; AU9874810-A; EP989855-A1
	Method for using non-autologous mesenchymal stem cells to treat various disorders.	1998	WO9946366-A; EP1062321-A; WO9946366-A1; AU9929042-A; EP1062321-A1; JP2002506082-W; AU749675-B
	Modified mesenchymal stem cell and/or cell of adipocyte lineage is useful for treating/preventing various diseases and exposure to toxin or antigens.	1998	US6149906-A
	New isolated nucleic acid encoding a human hematopoietic stem/precursor cell polypeptide called C17, for increasing the rate of multiplication of mesenchymal stem cells in vitro and for chromosome mapping and DNA fingerprinting.	1999	WO200063382-A; EP1169447-A; WO200063382-A1; AU200042377-A; EP1169447-A1; JP2002541850-W
	New monoclonal antibodies to mesenchymal stem cells - used for isolating mesenchymal stem cells for use in therapy and for diagnostic or therapeutic purposes.	1995	WO9638482-A; WO9638482-A1; AU9659589-A; US5837539-A; US6087113-A
	New polynucleotides encoding stem cell zinc fingers - useful for gene therapy to replace or supplement defective gene for those proteins.	1997	WO9845326-A1; AU9868898-A
	Novel human mesenchymal stem cell polynucleotides and polypeptides useful as reagents for chromosomal mapping, DNA fingerprinting and for detecting presence of genetic mutations in diseases affecting bone growth.	1999	WO200059933-A; EP1163338-A; WO200059933-A2; AU200043293-A; EP1163338-A2; JP2002540782-W
	Polynucleotides encoding human Hox C10, useful for the identification of mesenchymal stem cells.	1997	WO9918207-A; EP1019505-A; WO9918207-A1; AU9895138-A; EP1019505-A1; US6358702-B1; US2002090694-A1
	Producing cardiomyocytes, useful in enhancing myocardial differentiation and integration, comprises administering intravenously to the individual a cardiomyocyte producing mesenchymal stem cells.	2002	WO2004037188-A2; AU2003284320-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Recovering human mesenchymal stem cells from tissue - by isolating megakaryocyte population then separation of stem cells from this, useful, e.g. for regeneration of damaged tissue and for assay and isolation of growth or differentiation factors.	1996	WO9820731-A; EP941027-A; WO9820731-A1; AU9854369-A; EP941027-A1; US5965436-A; JP2001510330-W
	Reducing an immune response to a transplant in a recipient, involves treating the recipient with mesenchymal stem cells to reduce or inhibit host rejection of the transplant.	1999	EP1223956-A; WO200132189-A1; AU200112445-A; EP1223956-A1; JP2004506598-W
	Regeneration and augmentation of bone - using mesenchymal stem cells and medium which supports their differentiation into osteogenic cells.	1996	WO9740137-A; WO9740137-A1; AU9724622-A; EP906415-A1; JP2000508911-W; AU731468-B; US2003031695-A1; US6541024-B1; CA2251983-C
	Repairing and/or stabilizing joints, regenerating cartilaginous tissue in the joint, and treating osteoarthritis in an animal, comprises administering mesenchymal stem cells to the joint.	2000	WO200180865-A; WO200180865-A2; US2002005205-A1; AU200157236-A; EP1276486-A2; JP2004507454-W
	Treating a human subject for promoting connective tissue growth comprises administering allogeneic mesenchymal stem cells to a recipient human subject.	1999	US6355239-B1
	Treating lysosomal storage disorder in animal involves administering mesenchymal stem cells genetically engineered with polynucleotide encoding agent for treating lysosomal storage disorder to animal, intraperitoneally.	2002	WO2003101202-A; WO2003101202-A1; US2004033217-A1; AU2003273574-A1
	Treatment of osteoporosis - by administration of suspension of purified culture-expanded autologous human mesenchymal stem cells.	1997	WO9832450-A; EP1007063-A; WO9832450-A1; AU9860338-A; EP1007063-A1; JP2001509163-W
	Use of mesenchymal stem cells for preventing, reducing or treating transplant rejection or graft versus host reaction.	1998	WO9947163-A; EP1066052-A; WO9947163-A2; AU9931856-A; EP1066052-A2; US6328960-B1; JP2002506831-W; US6368636-B1; US2002085996-A1; AU755888-B

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Use of mesenchymal stem cells for treating a fetus and preparing organs such as heart, pancreas, kidney, liver, lung, skin, thymus and spleen for transplantation.	1998	WO200029002-A; EP1128836-A; WO200029002-A2; AU200014780-A; EP1128836-A2; JP2002529509-W
STEM CELL THERAPEUTICS	Antibody compositions comprising several antibodies - for enriching haematopoietic stem cells or non-haematopoietic metastatic tumour cells.	1995	CA2191655-A; US6306575-B1
	Enhancing multipotent neural stem cell and/or multipotent neural stem cell progeny migration in a subject comprises administering an erythropoietin and one other growth factor, useful for treating stroke.	2002	WO2004011021-A1; AU2003250704-A1
	Expanding precursor cells or stem cells for use in treating tissue injuries, by contacting the cells with transforming growth factor-alpha polypeptides or fragments.	2002	US2002123465-A1
	Increasing neural stem cell number or neuron formation from neural stem cells, useful for transplantation or treatment of neurodegenerative diseases (e.g. stroke), comprises providing an amount of a prolactin to neural stem cells.	2002	US2003054998-A1
	Increasing neural stem cell number useful for transplantation or treatment of neurodegenerative diseases (e.g. stroke), comprises providing an amount of a growth hormone and/or an insulin-like growth factor to neural stem cells.	2002	WO2003024471-A; US2003054551-A1; WO2003024471-A2; EP1430113-A2; AU2002325710-A1
	Increasing the number and/or differentiation of neural stem cells and/or neural stem cell progeny, useful for treating neurodegenerative diseases, comprises using pituitary adenylate cyclase-activating polypeptide.	2002	WO2004011497-A1; US2004092448-A1; AU2003250705-A1
	Negative selection for recovery of specific cells, useful e.g. for isolating stem cells for transplantation, by immunorosetting with erythrocytes.	2000	WO200073794-A; EP1185867-A; WO200073794-A2; AU200049059-A; EP1185867-A2; US6448075-B1; CN1367876-A; JP2003501629-W; US2003092078-A1; US2003185817-A1; AU769903-B; US6750326-B2; US2004197904-A1
	New isolated glyco:protein gp105 - obtd. from BL3 haematopoietic stem cells, ~~used for purifying the stem cells and~~ identifying regulatory factors..	1995	EP838033-A; WO9639628-A; ~~WO9639628-A1;~~ AU9659769-A; EP838033-A1;

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
			CN1191606-A
	New protein (SM1) located on the surface of human/mouse hematopoietic stem cells - used to purify such cells from bone marrow, and detect hematopoietic factors that bind SM1.	1997	WO9850429-A; WO9850429-A1; AU9872739-A; EP981546-A1; CN1261897-A
	Novel homozygous stem cell useful for making desired progenitor cells, differentiated cells, group of differentiated cells, and tissue types.	2001	WO2002102997-A; US2002168763-A1; WO2002102997-A2; EP1395652-A2; KR2003088022-A; AU2001297880-A1; JP2004532648-W
	Preparing a composition enriched for hematopoietic stem cells, especially useful for producing pure and highly enriched hematopoietic stem cell populations, comprises employing gp 105-specific antibodies.	1998	US6083747-A
	Preventing or treating HIV infection, comprises screening a population of cells for stem cells having a beneficial gene, and transplanting the selected cells into a patient.	2001	WO2003045335-A; US2003099621-A1; WO2003045335-A2; AU2002353006-A1; EP1469888-A2
	Producing a population enriched for human central nervous system stem cells or progenitors, for treating central nervous system disorders, by contacting neural or neural-derived cells with a monoclonal antibody that binds to CD49f.	2002	WO2004020597-A2; US2004137535-A1; AU2003278741-A1
	Producing homozygous stem cells for transplantation or cell replacement therapy, by isolating homozygous stem cells from a blastocyst-like mass or from a stemplasm created by transplanting the blastocyst-like mass into animal hosts.	2002	US2003027331-A1; WO2004003182-A2; AU2003253695-A1
	Producing homozygous stem cells having a target genotype and/or immunotype from non-fertilized post-meiosis I diploid germ cells, suitable for diagnostic, therapeutic and cosmetic transplant and treatment of various disorders.	2001	WO200257429-A; WO200257429-A2; US2002155601-A1; EP1373474-A2; KR2003088023-A; AU2002245210-A1
	Producing neuronal or glial precursor cells for treating neurodegenerative diseases, by increasing the number of neural stem cells and enhancing production of neuronal or glial precursor cells from neural stem cells.	2002	WO2003018782-A; WO2003018782-A2; US2003049838-A1; EP1423509-A2; AU2002325712-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Producing oligodendrocytes from mammalian multipotent neural stem cells, useful for treating demyelinating diseases, comprises contacting multipotent neural stem cells with at least one oligodendrocyte promoting factor.	2002	WO2004011632-A2; AU2003250697-A1
	Producing radial glial cells from neural stem cells or ependymal cells, useful for treating or ameliorating a central nervous system disease, comprises contacting neural stem cell or ependymal cell with radial glia-promoting agent.	2001	WO2003008566-A; WO2003008566-A1; CA2364095-A1; US2003032181-A1; AU2002322214-A1
	Producing tyrosine hydroxylase positive neurons, useful for treating Alzheimer's disease, Parkinson's disease, schizophrenia or clinical depression, by allowing the neural stem cell to differentiate into TH positive neurons.	2001	WO200283877-A; WO200283877-A1; US2002192817-A1; AU2002247585-A1
	Providing a stem cell unit in allogeneic stem cell bank for a potential recipient, for immediate transplantation after a nuclear attack, comprises providing several stem cell units having been typed to form an allogeneic stem cell bank.	2002	WO2003068172-A; WO2003068172-A2; US2003215942-A1; AU2003211132-A1
	Providing an animal with differentiated non-hematopoietic cells for finding drug targets and to investigate drug metabolism and toxicity, comprises introducing pluripotent hematopoietic stem cells.	2000	WO200171016-A; WO200171016-A1; US2001049139-A1; AU200150966-A
	Recovering and preserving stem cells, progenitor cells and matrix material from adipose tissue useful for treating osteoporosis, arthritis in mammals by delivering cryopreserved stem cells, progenitor cells.	2002	US2003054331-A1; WO2003024215-A1; EP1427279-A1; AU2002326901-A1; KR2004044912-A
	Stimulating stem cell or precursor cell proliferation, migration and differentiation, and treating tissue injury, comprises administering transforming growth factor alpha.	2000	WO200112127-A; EP1210102-A; WO200112127-A2; AU200069208-A; EP1210102-A2; US2002169131-A1; US6486122-B1; JP2003522131-W
	Use of collagenase to dissociate neural stem cells in cultures, resulting in increased cell viability and increased proliferation compared to dissociation using, e.g., trypsinization.	1999	WO200050572-A; EP1155116-A; WO200050572-A1; AU200037163-A; US6238922-B1; EP1155116-A1; US2001055808-A1; JP2002536991-W; AU764499-B
	Use of prolactin for increasing neural stem cell number in treatment of e.g. Alzheimer's disease, multiple sclerosis, Parkinson's disease.	2002	WO2003024472-A; WO2003024472-A2; EP1430114-A2; AU2002325711-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ASAHI	A material for concn. of haematopoietic stem cells and its prepn. - has hydroxy-apatite surface to which soln. contg. haematopoietic cells is introduced then washed to recover cells..	1995	JP8268897-A
	Cell formulation containing megakaryocyte precursor cell - useful for hematopoietic stem cell transplantation.	1997	JP11180877-A
	Cell formulation useful for regenerating tissues such as brain tissue, comprises mesenchymal stem cell that highly expresses matrix metalloprotease, obtained from human placenta tissue or umbilical cord tissue.	2002	JP2004210713-A
	Cell separation and recovery method for separating hematopoietic stem cell, involves performing a collection operation while a small amount of plasma remains in the cell capture unit.	1999	JP2000325071-A
	Cell separation device for treatment of various illness such as hematopoietic stem cell transplantation, cytobiological treatment - sets linear length between two initial contact points lesser than linear length between initial and farthest contact point of cell capturing material.	1998	JP11266852-A
	Collection of haematopoietic stem cells - and a tool and an apparatus for the collection.	1996	JP10084950-A
	Composition for gathering haematopoietic stem cells for cell proliferation - comprises CD34 positive cells fixed to porous beads..	1995	JP9107956-A
	Concentrating liver stem cell for treating liver disease, comprises supplying a cell suspension containing the stem cell into a container with a support for adsorbing a beta2 microglobulin positive cell, and removing the positive cell.	2001	JP2003210161-A
	Culture medium for human stem cells containing human notch ligand protein and optionally growth factor as active ingredient, for culturing stem cells that can be used for treating bone diseases and in bone transplantation.	2000	WO200216556-A; WO200216556-A1; AU200180149-A; EP1312668-A1; JP2002522230-X; US2004023324-A1
	Detecting specific type of cells e.g., stem cell in biological sample, by adding suspension of cells from biological sample to base material with staining reagent, and detecting stained cells, qualitatively or quantitatively.	2003	JP2004298158-A

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	Human serrate-2 gene expression products - used to regulate stem cell differentiation, useful in treating neoplasms, e.g. leukaemia.	1997	WO9802458-A; EP913404-A; WO9802458-A1; AU9734598-A; EP913404-A1; JP10505842-X; AU720930-B; US6291210-B1; US2002049306-A1; US2003022368-A1; US2003032781-A1; US6638741-B2; CA2260365-C
	Human undifferentiated hematopoietic stem cells isolation and separation method involves recovering the cells from a filter which traps nucleated cells and passes erythrocyte substantially.	1998	JP2000166541-A
	Increasing the number of hematopoietic stem cells in peripheral circulation, for therapeutic or research purposes comprises contacting peripheral blood with a material that decreases leukocyte concentration in the peripheral blood.	2001	JP2003009851-A
	Isolation of stem cells for transplantation involves preserving the cells at one temperature and separating the cells by passing through separation device maintained at fixed temperature.	1998	JP2000139454-A
	Measuring rate of uptake of human hematopoietic stem cells such as human cord blood cell, bone marrow cell or CD34 cell, involves measuring rate of expression of laminin receptor on human hematopoietic stem cell.	2001	JP2003144191-A
	Porous culture base material for culturing embryonic stem cells, useful in transplantation and regeneration medicine to cure injury or other diseases.	2001	WO2003038070-A; WO2003038070-A1; AU2002343820-A1
	Processing cell, involves exposing hematopoietic stem cells or progenitor cells to culture solution containing bioactive factor, and increasing uptake of bone-marrow by increasing expression rate of molecule.	2002	JP2004147531-A
	Proliferating human hematopoietic stem cells and/or progenitor cell useful in cell therapy, by culturing human hematopoietic stem cells and/or progenitor cell in presence of stromal cells derived from human placental tissue.	2003	JP2004222502-A
	Separation and recovery of nucleated cells such as hematopoietic stem cells - involves passing blood sample through cell separation device capable of retaining nucleated cells from	1998	JP11322618-A

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	erythrocytes.		
	Trapping cell, useful for detecting specific type of cell e.g., stem cell in biological sample, by preparing cell suspension from material, absorbing moisture content of suspension with base material trapping specific cells.	2003	JP2004298157-A
NEUROSPHERES HOLDINGS	An isolated ependymal neural central nervous system stem cell useful for treating, e.g. Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, multiple sclerosis and acute trauma.	1998	WO9967363-A; EP1090105-A; WO9967363-A1; AU9949459-A; EP1090105-A1; BR9911509-A; CN1307632-A; KR2001071601-A; JP2002518043-W; US2003092176-A1; AU770501-B2
	Culture of neural stem cells in vitro - for production of differentiated neural cells.	1995	US5851832-A
	Culturing a stem cell comprises propagating the stem cell in tissue culture medium comprising an agent selected from an inhibitor of a PTPase, a modulator of an enzyme with one or more phosphate binding sites, etc..	2002	WO2004018655-A2; AU2003265094-A1
	Generating hematopoietic cells from multipotent neural stem cells.	1998	WO9916863-A; EP1019493-A; WO9916863-A1; AU9892495-A; NO200001509-A; EP1019493-A1; US6093531-A; JP2001518289-W; US2003148515-A1; US6638501-B1; AU2003200256-A1
	Increasing neural stem cell number, for treating or ameliorating neurodegenerative diseases e.g. Alzheimer's disease, multiple sclerosis or Parkinson's disease, comprises providing ovarian hormone to at least one neural stem cell.	2001	WO200269976-A2; US2002164314-A1; AU2002237126-A1
	Increasing neural stem cell number, useful for treating or ameliorating neurodegenerative diseases e.g. Alzheimer's disease, multiple sclerosis or Parkinson's disease, comprises providing estrogen to at least one neural stem cell.	2001	WO200269975-A; WO200269975-A1; US2002165213-A1; AU2002237125-A1

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	Inducing neuronal differentiation of neuronal stem cells comprises inducing an increased expression of Nurr1 within the cells.	1999	WO200066713-A; EP1173548-A; WO200066713-A2; AU200047527-A; EP1173548-A2; JP2002542818-W; AU2004202661-A1
	Inducing proliferation of multi-potent neural stem cells - by administering growth factor or genetic material encoding neurological agent to hippocampal region.	1996	WO9735605-A1; AU9720199-A
	Isolating ependymal neural CNS stem cells from post-natal animal for preparing a medicament for treating CNS disorders by screening single cells obtained by dissociating CNS tissue from the animal for cells expressing Notch1 receptor.	1998	US6541247-B1
	Obtaining cDNA library comprises proliferating multipotent neural stem cells in medium containing growth factor to form neurospheres, proliferating neurospheres into neural cells and obtaining cDNA library from the neural cells.	1995	US6399369-B1
	Producing cells that express tyrosine hydroxylase, useful for treating injured or degenerate dopaminergic cells, comprises transforming central nervous stem cells with transcriptional regulator.	1998	US6284539-B1
	Producing neurons from population of neural cells containing at least one multipotent stem cell useful for transplantation to treat neurological diseases.	1997	WO9921966-A; WO9921966-A1; AU9896173-A; US6165783-A; US2001039049-A1; JP2001520878-W; US6368854-B2; US2002098585-A1; US2002094571-A1; US2003104619-A1
	Propagation and long term in vitro culture of central nervous system stem cells - with retention of differentiation capacity, and selective differentiation into neurons, astrocytes and oligodendrocytes, useful in gene or cell therapy and screening for growth factors or drugs.	1996	WO9744442-A; EP915968-A; WO9744442-A1; AU9729341-A; US5753506-A; EP915968-A1; US6040180-A
	Regulation of in vitro proliferation of multi-potent neural stem cell(s) and their progeny - using compsns. contg. biological factors, which can prevent scar tissue formn. in patients with brain or spinal cord injury.	1994	WO9615226-A; EP792350-A; WO9615226-A1; AU9538367-A; NO9702171-A; FI9701956-A; EP792350-A1; KR97707272-A; JP10509592-W; MX9703492-A1; AU716811-B;

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			CN1170435-A
	Testing effect of biological agents on neural precursor cells - by dissociating neural tissue contg. multi-potent stem cells, proliferating stem cells in culture contg. growth factors and contacting with biological agent.	1995	WO9609543-A; EP783693-A; EP1130394-A; WO9609543-A1; AU9535152-A; FI9701168-A; NO9701245-A; EP783693-A1; MX9702126-A1; JP10505754-W; KR97706490-A; AU714837-B; EP1130394-A1; EP783693-B1; DE69523771-E; ES2167461-T3; CN1161744-A
	Transplanting of multipotent neural stem cell progeny to a host comprising obtaining a population of cells derived from mammalian neural tissue containing multipotent central nervous system neural stem cells.	1995	US6497872-B1
	Use of platelet-derived growth factor, vascular endothelial growth factor, or their modulators for modulating neural stem cell or neural progenitor cell activity, particularly for treating e.g. Alzheimer's, ischemia or stroke.	2001	WO2003024478-A; WO2003024478-A1; US2003203844-A1; AU2002334327-A1; EP1443955-A1
	Using growth factors to induce proliferation of multipotent neural stem cells - to protect proliferating progenitor cells, for treating loss of memory and to protect against injury or neurological disease.	1996	WO9822127-A; EP941109-A; WO9822127-A1; AU9850433-A; NO9902364-A; EP941109-A1; JP2001504123-W; AU200153930-A
CHILDRENS HOSPITAL	Engineered bone marrow for hematopoietic stem cell transplantation comprises bone marrow cells, pulverized bone or bone substitute, and type I collagen or collagen substitute.	2001	WO2003051283-A; WO2003051283-A2; US2003129748-A1; AU2002364941-A1

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	Engraftable human neural stem cells with gene therapeutic applications.	1998	WO200009668-A; EP1105462-A4; US5958767-A; WO200009668-A1; AU9955488-A; EP1105462-A1; JP2002522069-W; AU763686-B
	Enhancing proliferation or hematopoietic differentiation of human stem cells comprises transfecting the stem cells in an in vitro culture medium with exogenous cdx peptides or nucleic acids.	2002	WO2004029200-A3; WO2004029200-A2; AU2003273332-A1
	Enriching neural stem cells (NSC), useful for diagnosing, identifying and treating neural tumors, comprises identifying and enriching cells with at least one positive or negative NSC-specific marker.	2001	WO200286082-A2; US2003040023-A1; AU2002303437-A1; EP1425297-A2
	New clone of genetically modified human neural stem cells stably maintained in vitro as distinct cell line having multiple primordial human neural stem cells, useful for on-demand implantation in vivo into a living host subject.	1999	US6541255-B1
	New genetically modified human neural stem cell comprising a primordial neural stem cell of human origin and genetically modified human genomic DNA, useful for on-demand implantation in-vivo, thus as therapeutic CNS cell replacement.	2003	US2004214332-A1
	New living progeny cells of genetically modified human neural stem cells, useful treating neurogenetic disorders e.g. Tay-Sachs.	1999	US6528306-B1
	New primordial human neural crest stem cell having a pluripotent and self-renewing properties, useful for implantation in vivo for cell therapy treatment of human neurological disorders and diseases.	2000	WO2003054202-A; WO2003054202-A1; AU2001257262-A1
	New primordial human neural stem cells useful for neural cell replacement procedures or in the treatment of extensive inherited metabolic and other neurogenetic human diseases like Tay-sachs disease.	1999	US6680198-B1
	Obtaining human mesenchymal stem cells, comprises treating the dermal layer isolated from human connective tissue with collagenase to yield cell suspension, centrifuging cell suspension to obtain cell product.	2000	WO200183709-A; WO200183709-A1; AU200157436-A; EP1285057-A1; EP1292249-A1; JP2003531604-W; US2003211602-A1; US2003208279-A1

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	Producing a population of cells enriched for pluripotent fetal stem cells, useful for enzyme replacement and gene therapy, comprises selecting c-kit positive cells from chorionic villus, amniotic fluid or placenta sample.	2002	WO2003042405-A; WO2003042405-A2; EP1442115-A2; AU2002363659-A1
	Purifying and separating muscle stem cells from a myoblast sample, useful for the treatment and prophylaxis of an inherited disease, cancer and muscular dystrophy.	1999	WO200119966-A; EP1212404-A; WO200119966-A2; AU200073787-A; EP1212404-A2; US2003003085-A1; JP2003509044-W; AU763021-B
	Retinal stem cells isolated from neuroretina useful for transplantation to repopulate or rescue a dystrophic eye.	2000	WO200158460-A; EP1261357-A; WO200158460-A1; AU200134998-A; EP1261357-A1; JP2003521910-W; US2003207450-A1
	Stimulating growth of lung alveolar surface in vivo in humans in need of treatment, or ex vivo before or after transplantation of lung into recipient, comprises administering progenitor cells or stem cells to lung.	1999	WO200142425-A; WO200142425-A2; AU200145201-A; EP1235485-A2; US2002164790-A1; US2004229352-A1
	Treating a tumor in an individual, involves systemically delivering a number of modified or unmodified stem cells that deliver or express a substance having direct or indirect antitumor effect, to the individual.	2000	WO200168148-A; EP1267944-A; WO200168148-A1; AU200147442-A; EP1267944-A1; JP2003526685-W
THOMSON J A	Culturing human embryonic stem cells comprises culturing stem cells in a nutrient medium with low levels of oxygen and high level of osmolarity.	2004	US2004224401-A1
	Culturing stem cells using a recombinant human interleukin-3 mutant polypeptide, useful for treating aplastic anemia, neutropenia, Chediak-Higashi syndrome, systemic lupus erythematosus, leukemia and myelodysplastic syndrome.	2002	US2004018618-A1
	Establishing a clonal embryonic stem cell line capable of sustaining a phenotype of normal embryonic stem cells after at least eight months of in vitro culturing, useful for human biomedical, industrial or scientific application.	2001	US2003073234-A1
	Ex vivo expansion of stem cells (e.g. hematopoietic cells) for gene therapy, e.g. using expanded stem cells for treating thrombocytopenia, by culturing the cells in a growth medium containing a variant or mutant of human interleukin-3.	2002	US2003103936-A1

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	Ex vivo expansion of stem cells and enhancing transduction efficiency of cultured stem cells, by culturing stem cells in growth medium having mutant interleukin-3, hematopoietic factor, and harvesting the cultured cells.	1996	US6413509-B1
	Ex vivo expansion of stem cells, e.g. hematopoietic cells for treating aplastic anemia, involves culturing the stem cells with growth medium comprising chimera protein, and harvesting the cultured stem cells.	2002	US2003185790-A1
	Identifying intercellular protein factors, e.g. intercellular factors expressed by fibroblasts that inhibit stem cell differentiation in culture, by employing a phage display technique using cDNA from the signaling cells.	2001	WO200262965-A; WO200262965-A2; US2003022159-A1; AU2002306545-A1
	Inducing primate stem cells to differentiate into human trophoblast cells which may be used in various pharmaceutical applications comprises culturing the primate stem cells in the presence of a protein trophoblast-inducing factor.	2002	WO2003078599-A2; US2004005701-A1; AU2003225835-A1
	New preparation of human embryonic stem cells, useful for generating transgenic non-human primates for models of specific human genetic diseases or for tissue transplantation.	2001	US2003008392-A1
	New purified human embryonic stem cells negative for the SSEA-1 marker, positive for the SSEA-4 marker, pluripotent and have phosphatase alkaline activity, useful for generating transgenic animal models of human genetic diseases.	2001	US2001024825-A1
	Obtaining human hematopoietic cells, useful for transplanting human cells into human recipient host, involves exposing human embryonic stem cell culture to mammalian hematopoietic stromal cells.	1999	WO200134776-A; EP1228194-A; WO200134776-A1; US6280718-B1; AU200069404-A; US2002015694-A1; NO200202180-A; EP1228194-A1; SE200201328-A; BR200015374-A; CN1387565-A; JP2003513664-W; KR2003022766-A; US6613568-B2; MX2002004551-A1; NZ518683-A; US2004043484-A1

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	Production of primate embryoid bodies that adhere to a substrate comprises removing the adhering colonies of the embryonic stem cells from the substrate in clumps.	2000	WO200162899-A; EP1257634-A; WO200162899-A2; AU200138491-A; NO200203949-A; EP1257634-A2; BR200108436-A; CN1404526-A; US6602711-B1; KR2003032921-A; JP2003523766-W; US2004023376-A1; MX2002008054-A1; NZ520700-A
	Serum-free culturing of primate embryonic stem cells in the presence of fibroblast growth factors.	2000	WO200166697-A; EP1261691-A; WO200166697-A2; AU200141973-A; EP1261691-A2; NO200204200-A; BR200108507-A; CN1416345-A; KR2003032926-A; JP2003525625-W; US2003190748-A1; MX2002008698-A1; NZ520701-A
	Testing agents for effect on human cardiac cells comprises using cardiomyocytes derived from human embryonic stem cells, useful in drug screening protocols for mechanisms of cardiac toxicity and drug development.	2002	WO2004011603-A2; US2004106095-A1; AU2003252155-A1
	Treating diabetes mellitus or liver disease, comprises isolating a nestin-positive pancreatic stem cell from a pancreatic islet of a donor, and transferring the stem cell into the patient.	2000	WO200139784-A; WO200139784-A1; AU200118173-A; US2001024824-A1; US2001046489-A1; US2002164307-A1; EP1257282-A1; US2003031657-A1; US2003082155-A1; JP2003523323-W; CN1423563-A

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GERON CORP	Cell culture medium for growing undifferentiated primordial stem cells.	1997	WO9920741-A; EP1025204-A; WO9920741-A1; AU9912771-A; EP1025204-A1; AU729377-B; JP2001520036-W; US2003175956-A1; US6800480-B1; AU200072356-A; WO9920740-A2; AU9911976-A; JP2001017163-A
	Assessing culture of undifferentiated human embryonic stem cells or their progeny, by detecting Cripto, gastrin-releasing peptide (GRP) receptor and podocalyxin-like protein markers, and either hTERT and/or Oct3/4, or GRP receptor.	2003	US2004180347-A1; WO2004080146-A2
	Assessing culture of undifferentiated primate pluripotent stem cells by detecting expression of markers e.g., Zic family member 3, other than human telomerase reverse transcriptase/octamer binding transcription factor.	2003	US2003224411-A1; WO2004083406-A2
	Cell population for screening compounds for cardiomyocyte toxicity, has contractile activity and comprises a few cells with the same genome as a line of primate pluripotent stem cells and expresses endogenous gene marker.	2001	WO2003006950-A; EP1412479-A4; WO2003006950-A2; US2003022367-A1; GB2393734-A; EP1412479-A2; KR2004022448-A; AU2002313670-A1; JP2004535199-W

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	Culturing primate pluripotent stem cells for use in therapy, involves culturing in growth environment free of feeder cells but containing conditioned medium produced by collecting medium from feeder cell culture.	2000	WO200151616-A; EP1250420-A; WO200151616-A1; WO200151616-A2; AU200111128-A; AU200126395-A; US2002019046-A1; US2002022268-A1; US2002072117-A1; US2002081724-A1; US2002090723-A1; AU751321-B; US2002137204-A1; US2002151053-A1; EP1250420-A2; US2003017589-A1; CN1416462-A; JP2003530828-W; US6642048-B2; US6667176-B1; JP2003111588-A; AU2002301213-A1
	Depleting a cell e.g., human embryonic stem cell population of undifferentiated stem cells (UC) for use in regenerative medicine comprises genetically altering UC in a population to express nucleic acid encoding a lethal product.	2001	US2003040111-A; EP1337632-A; WO200242445-A2; US2002098582-A1; AU200237681-A; GB2374076-A; US2003032187-A1; US2003040111-A1; US6576464-B2; EP1337632-A2; GB2386120-A; KR2003081334-A; GB2374076-B; CN1478145-A; JP2004523217-W; US2004152189-A1
	Differentiated cell population which has phenotypic characteristics of liver cells obtained by culturing pluripotent stem cells in the presence of a hepatocyte differentiation agent.	2000	WO200181549-A; EP1280887-A; WO200181549-A2; AU200159170-A; US6458589-B1; US2002160511-A1; US2003003573-A1; EP1280887-A2; US6506574-B1; GB2380490-A; KR2003032941-A; JP2003530879-W; CN1439049-A

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	Expanding population of pluripotent stem cells by culturing the cell population in a culture containing an extracellular matrix, a fresh isotonic culture medium and fibroblast growth factor.	2002	WO2003020920-A; WO2003020920-A1; GB2394723-A; EP1430111-A1; AU2002323593-A1; US2004235159-A1
	New cell population obtained by differentiating primate pluripotent stem cells, for producing cartilage, for treating e.g. arthritis and joint traumas and for cosmetic surgery.	2002	WO2003050250-A; US2003109038-A1; WO2003050250-A2; AU2002366602-A1; GB2399348-A; EP1463800-A2
	New pancreatic islet cells derived from embryonic stem cells, useful for preparing a medicament for treating a condition associated with a deficiency in insulin, glucagon or somatostatin, e.g. Type I diabetes.	2001	WO2003050249-A; WO2003050249-A2; US2003138948-A1; AU2002364143-A1; GB2399823-A; EP1463798-A2; KR2004068197-A
	Novel neural progenitor cell population, useful for reconstituting or supplementing central nervous system function, proliferates in vitro culture and is obtained by differentiating primate pluripotent stem cells.	2000	EP1287116-A; WO200188104-A2; US2002009743-A1; AU200163199-A; US2002039724-A1; US2002168766-A1; EP1287116-A2; GB2379447-A; KR2003032953-A; CN1429267-A; JP2003533224-W
	Preparing cells for tolerizing allografts of pluripotent stem cells involves differentiation of human pluripotent stem cells into a first and second cell population.	2000	EP1335972-A; WO200244343-A2; US2002086005-A1; AU200239294-A; GB2386125-A; EP1335972-A2; JP2004521877-W
	Reprogramming a human cell for supplementing the activity of particular cell type for treating a subject, involves culturing the cell in the presence of pluripotent stem cells, embryoid body cells or cell lysates.	2000	WO200214469-A; WO200214469-A2; AU200184923-A; US2003211603-A1
KAGAKU GIJUTSU	Automatic cell culture apparatus useful for culturing stem cell, has refrigeration apparatus to refrigerate culture medium and chemical agent container, automatic measuring equipment to measure culture medium or chemical agent.	2002	JP2004089095-A
	Culture medium for hematogenous cell culture to cultivate hematopoietic stem cell and hematopoietic precursor cells, comprises substance-P peptide or its related peptide.	2002	JP2003289856-A
	Culturing mesenchymal stem cell of the mammal, by cultivating the stem cell in presence of a membrane extra- cellular	2001	JP2003052360-A

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	substrate.		
	Differentiating animal cells involves specializing stem cells derived from animal to predetermined functional cells by subculturing cells and determining differentiation-inducing measures against subculture cells.	2002	JP2003289855-A
	Enamel epithelium cell stock, HAT-7, derived from enamel epithelium stem cells of rat apical area is useful in treating periodontal disease and as biomaterials for pharmaceuticals.	2000	JP2001269167-A
	Formation of embryonoid body, involves carrying out floating culture of embryonic stem cell in the presence of noggin protein.	2001	WO200281663-A; JP2002291469-A; WO200281663-A1; US2004092012-A1
	Human H37 proteins with a Cdc7 activity regulatory subunit, for controlling cell replication and cell proliferation, useful in treating cancers and diseases due to abnormal production of stem cells.	1998	WO200026250-A; WO200026250-A1; JP2000135090-A; EP1125947-A1
	Isolation and enrichment of neural stem cells from embryonic and adult central nervous system.	2000	JP2001292768-A
	Knockout mouse or embryonic stem cells with introduced trap vectors containing a loxP sequence or a variant loxP sequence with disrupted gene of sequence No. 7 of 1405 bases.	2001	JP2002369689-A
	Novel human CREG2 protein or mouse Creg2 protein which are substrates of brain-specific deubiquitination enzyme USP17, useful for inducing differentiation of undifferentiated brain stem cells to specialized neurons.	2002	JP2003259871-A
	Novel somatic stem cell strain useful for fundamental researches of cell differentiation, tissue regeneration and regenerative medicines.	2002	JP2004089093-A
	Production of neuronal stem cells for producing nervous system cells, involves selectively cultivating iris pigment epithelial cells isolated from eyeball of mammal by floating aggregate cultivation method.	2002	JP2003325167-A
	Separation and collection of mammalian mesenchyme type stem cell, useful for repairing cartilage and periodontal tissue defects upon differentiation, by separating and collecting stem cells from oral tissue of mammal.	2001	JP2003052365-A

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	Transgenic animal production for use in disease modeling, involves homologous recombination of embryonic stem cell and mutated RhoGDI-alpha gene, introducing into initial embryo and generating the offspring.	1999	JP2000279054-A
SYSTEMIX INC	Detecting stem cells in haematopoietic cell population - by enrichment, culture induced differentiation and detection of RNA transcripts specific for at least 2 lineages..	1994	WO9615259-A2; AU9641167-A; WO9615259-A3
	Detection of human haematopoietic stem cells in sample - using antibodies specific for Thy-1 and CD34.	1995	US5643741-A
	DNA encoding human haematopoietic cell antigen proteins - useful as stem cell marker proteins in functional studies and for antibody prodn..	1994	EP716146-A2; AU9511531-A; JP8157499-A; CA2141708-A
	Haematopoietic stem cell population expressing EM16 cell marker - and method of obtaining them, useful for gene therapy of diseases.	1996	WO9800523-A; WO9800523-A1; AU9734407-A
	Haematopoietic stem cell transduced ex-vivo with recombinant retroviral particle - which expresses gene of interest, useful for somatic gene therapy.	1995	WO9633281-A; EP821740-A; WO9633281-A1; AU9655571-A; EP821740-A1; JP11514209-W
	Hematopoietic stem cells capable of regeneration in a coculture and differentiation to members of all hematopoietic lineages.	1995	US5914108-A
	Human haematopoietic stem cell composition - comprising stem cells containing exogenous DNA.	1995	US5716827-A
	Human haematopoietic stem cell culture and co-culture with stromal cells - useful for regeneration of deficient haematopoietic system in a host e.g. after chemotherapy.	1995	US5750397-A
	Improved modification of hematopoietic stem cells - by transduction with MFG viral vector comprising vesicular stomatitis G (VSV-G) protein gene.	1994	WO9609400-A1; AU9536356-A
	Improving gene transfer into haematopoietic stem cells following treatment with hydroxy-urea - to increase proportion of cells in active cell cycle, also for increasing yield of bone marrow cells and in screening of agents that affect stem cells.	1996	WO9748815-A; WO9748815-A2; AU9733394-A; EP914461-A2; US5928638-A; JP2001505043-W
	Isolated cluster forming stem cells from early foetus - for regenerating haematopoietic system, treating immunodeficiency, as gene therapy vectors etc., also new non-differentiating stem cell growth factor.	1995	WO9722708-A1; AU9714309-A

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	Obtaining cell population of stem cells - using physical cell sepn. lysosomotropic agents.	1994	WO9508105-A1; AU9477982-A; EP736169-A1
	Obtaining compsn. enriched in haematopoietic stem cells - useful for isolation and evaluation of factors associated with differentiation and maturation of haematopoietic cells and gene therapy for beta-thalassemia etc..	1994	WO9615228-A; WO9615228-A1; AU9537526-A; US5665557-A
	Prepn. of compsn. of substantially enriched in haematopoietic stem cells - by using antibody specific for HCC-1 epitope, useful for engraftment where cells may be freed of neoplastic cells, and use of autologous cells avoids graft versus host disease.	1994	WO9615229-A; EP787181-A; WO9615229-A1; AU9537527-A; EP787181-A1; US5677136-A; JP10513341-W
UNIV CASE WESTERN RESERVE	Composition for in vitro chondrogenesis from mesenchymal precursor cells - comprises mesenchymal stem cells and chondro-inductive agent, useful in studying chondrogenesis and for transplantation to generate cartilage.	1995	WO9718299-A; EP868505-A; WO9718299-A1; AU9677351-A; EP868505-A1; US5908784-A; AU713280-B; JP2000516802-W
	Compsns. useful in muscle regeneration and treatment of muscular dystrophy - comprise a mixt. of isolated human muscle precursor cells and isolated human mesenchymal stem cells.	1995	WO9639035-A; EP852463-A; WO9639035-A1; AU9660396-A; EP852463-A1; AU706026-B; JP11507047-W
	Cryo-preserved human mesenchymal stem cell preparation which can differentiate - into cells of several connective tissue types and retain osteogenic potential following cryo-preservation and extensive sub-culture.	1996	WO9739104-A; WO9739104-A1; AU9727304-A
	Determining immune status of an individual, comprises determining level of c-kit, STAT3, stem cell factor and/or leukemia inhibiting factor expression in a test sample and comparing with the level of expression in a control sample.	2002	WO2003052424-A; WO2003052424-A2; AU2002352392-A1
	Implant for repairing damaged tissue in ligament or cartilage or fibrocartilage of a tendon - has mesenchymal stem cells within contracted gel matrix; cells having contracted gel while in tension in given direction.	1996	US5855619-A
	Implant for repairing tissue defects in animals has a contracted gel matrix formed in a planar mat and mesenchymal stem cells in the gel matrix.	1998	US6174333-B1
	Improving bone marrow engraftment - by admin. of mesenchymal stem cells, to increase graft survival and accelerate blood and marrow cell regeneration.	1995	WO9623058-A; WO9623058-A1; AU9647041-A; US5733542-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Inducing osteogenic differentiation of mesenchymal stem cells - by administering synergistic mixture of basic fibroblast growth factor and bone morphogenic protein-2, for treating, e.g. bone wounds.	1997	WO9833515-A; WO9833515-A1; AU9861446-A
	Lineage-directed induction of isolated, culture-expanded human mesenchymal stem cells - comprises contacting them with factor able to induce differentiation into specific lineage, used for regeneration and repair of mesenchymal tissue.	1995	EP805853-A; WO9623059-A; WO9623059-A1; AU9647469-A; EP805853-A1; US5736396-A; JP10512756-W; US5942225-A; MX9705612-A1; AU719098-B; CA2211120-C; MX201356-B
	Method for regenerating articular cartilage defects - comprises administering human mesenchymal stem cells.	1997	WO9851317-A; EP989855-A; WO9851317-A1; AU9874810-A; EP989855-A1
	New monoclonal antibodies to mesenchymal stem cells - used for isolating mesenchymal stem cells for use in therapy and for diagnostic or therapeutic purposes.	1995	WO9638482-A; WO9638482-A1; AU9659589-A; US5837539-A; US6087113-A
	New multilayer skin equivalents - comprise scaffold layer containing dermis-forming cells, particularly mesenchymal stem cells, and a keratinocyte layer.	1996	WO9741208-A; EP953040-A; WO9741208-A1; AU9728083-A; EP953040-A1; JP2000508922-W; US6497875-B1; AU200118326-A
	Treating ischemic tissues, e.g. chronic myocardial ischemia, ischemic cardiomyopathy, or cerebrovascular ischemia, comprises administering enriched human endothelial generating cells and enriched human mesenchymal stem cells.	2002	WO2004052177-A2; AU2003296338-A1
	Treatment of osteoporosis - by administration of suspension of purified culture-expanded autologous human mesenchymal stem cells.	1997	WO9832450-A; EP1007063-A; WO9832450-A1; AU9860338-A; EP1007063-A1; JP2001509163-W

14.3 Genômica Funcional

Foram identificadas 16 patentes sobre genomica funcional, sendo que a liderança é dos Estados Unidos, conforme a tabela a seguir:

Tabela dos **países depositantes** em genomica funcional:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	A new software tool for integration and presentation of repeat and CpG dinucleotide distribution in a DNA sequence provides a graphical output useful in functional genomic analysis.	2000	AU200149701-A
	Analyzing genomic DNA clones, useful in functional genomics, particularly to the expression and screening of genomic DNA sequences encoding uncharacterized genes and proteins, comprises retrovirus-based genomic screening.	2003	US2004002062-A1; AU2003230753-A1
	Assay for detecting post-translational modification of a target protein by a post-translational modifier polypeptide molecule, useful in functional genomics and proteomics, comprises using a reporter protein.	2002	US2004067497-A1
	Generating recombinant expression vector for functional genomics, involves contacting circular double-stranded donor DNA and circular acceptor vector in presence of recombinase to form single fused circular vector.	2000	AU200168627-A; US2004005591-A1
	Identifying biological function of genes for functional genomics and target validation applications, involves using recombinant zinc finger proteins which specifically recognize genes with high efficacy.	1999	AU200074787-A; EP1238067-A2; KR2002065473-A; JP2003527093-W; US2004203064-A1
	Improving retention of introduced nucleic acid sequence in a cell, useful in gene therapy and functional genomics.	1998	AU9923249-A; EP1047774-A1; JP2002508956-W; US2002065213-A1
	Method of detecting gene expression pattern for use in functional genomic study, cancer diagnosis and drug response prediction, involves selecting several genes from gene expression profiles.	2001	US2003104394-A1
	Modulating expression of a desired nucleic acid product in a cell using self-cleaving RNA motif, useful in the fields of protein production, gene therapy, developmental biology and functional genomics.	1998	AU9965225-A
	New isolated murine polynucleotide useful in functional genomic analysis, and in diagnosing or treating cancer, autoimmune disease, multiple sclerosis, psychosis, atherosclerosis, viral or bacterial infections.	2003	US2004168209-A1
	New murine polynucleotides comprising gene trapped sequences, useful in functional genomic analysis, in the development of new therapeutic or diagnostic agents, for diagnostic gene expression analysis or for genetic manipulations.	2000	US2002161207-A1
	New nucleic acid sensor molecule useful in diagnostic applications, nucleic acid-based electronics and functional genomics, comprises an enzymatic nucleic acid and one or more sensors.	2000	AU200143454-A; EP1263947-A2; US2003065155-A1; JP2003525631-W
	Siah-Mediated Degradation Protein, useful for drug screening, for therapeutic applications and for functional genomics.	1999	AU200057303-A; EP1185652-A2; JP2003502042-W; US2004163138-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Grã-Bretanha	Selecting a nucleotide sequence encoding a polypeptide, both having an activity useful in functional genomics, by removing a sub-aliquot of an aliquot of nucleotide sequences amplified and determining if the sub-aliquot has activity.	2001	AU2002306727-A1
Coréia	Library of a multitude of single-stranded circular antisense nucleic acids, useful for functional genomics, and treatment of various disorders such as cancer, viral infection, metabolic and immunologic disorders.	2001	EP1402017-A1; AU2002236156-A1
Noruega	New naked nucleic acid-virion protein display complex useful in functional genomics, proteomics and in protein identification for the exploration of therapeutic drugs and new diagnostic procedures.	2002	NO200201298-A; AU2003212720-A1
Austrália	New baculovirus engineered so that the capsid displays heterologous peptides or the genome expresses heterologous peptides in its capsid, useful for delivering peptides into the nucleus of another cell or for functional genomics.	2002	AU2003212521-A1

Com relação aos depositantes, apenas um apresenta duas patentes, a empresa Sangamo Biosciences, conforme tabela a seguir:

Tabela dos **depositantes** em genomica funcional:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
SANGAMO BIOSCIENCES INC	Selecting a nucleotide sequence encoding a polypeptide, both having an activity useful in functional genomics, by removing a sub-aliquot of an aliquot of nucleotide sequences amplified and determining if the sub-aliquot has activity.	1999	AU2002306727-A1
	Identifying biological function of genes for functional genomics and target validation applications, involves using recombinant zinc finger proteins which specifically recognize genes with high efficacy.	2001	AU200074787-A; EP1238067-A2; KR2002065473-A;; JP2003527093-W; US2004203064-A1
ABUIN A; ZAMBROWICZ B; SANDS A T	New isolated murine polynucleotide useful in functional genomic analysis, and in diagnosing or treating cancer, autoimmune disease, multiple sclerosis, psychosis, atherosclerosis, viral or bacterial infections.	2003	US2004168209-A1
ARK THERAPEUTICS LTD	New baculovirus engineered so that the capsid displays heterologous peptides or the genome expresses heterologous peptides in its capsid, useful for delivering peptides into the nucleus of another cell or for functional genomics.	2002	AU2003212521-A1
BURNHAM INST	Siah-Mediated Degradation Protein, useful for drug screening, for therapeutic applications and for functional genomics.	1999	AU200057303-A; EP1185652-A2; JP2003502042-W; US2004163138-A1
CALIFORNIA PACIFIC MEDICAL CENT RES INST; DEBS R J	Improving retention of introduced nucleic acid sequence in a cell, useful in gene therapy and functional genomics.	1998	AU9923249-A; EP1047774-A1; JP2002508956-W; US2002065213-A1
CHILDRENS MEDICAL CENT; INST PASTEUR (INSP)	Modulating expression of a desired nucleic acid product in a cell using self-cleaving RNA motif, useful in the fields of protein production, gene therapy, developmental biology and functional genomics.	1998	AU9965225-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DAI X; FANG T; XIONG W	Method of detecting gene expression pattern for use in functional genomic study, cancer diagnosis and drug response prediction, involves selecting several genes from gene expression profiles.	2001	US2003104394-A1
FRIEDRICH G; ZAMBROWICZ B; SANDS A T	New murine polynucleotides comprising gene trapped sequences, useful in functional genomic analysis, in the development of new therapeutic or diagnostic agents, for diagnostic gene expression analysis or for genetic manipulations.	2000	US2002161207-A1
GALA DESIGN INC	Analyzing genomic DNA clones, useful in functional genomics, particularly to the expression and screening of genomic DNA sequences encoding uncharacterized genes and proteins, comprises retrovirus-based genomic screening.	2003	US2004002062-A1; AU2003230753-A1
LI D; YOPP J; SAMUELS H H	Assay for detecting post-translational modification of a target protein by a post-translational modifier polypeptide molecule, useful in functional genomics and proteomics, comprises using a reporter protein.	2002	US2004067497-A1
LINDQVIST B H	New naked nucleic acid-virion protein display complex useful in functional genomics, proteomics and in protein identification for the exploration of therapeutic drugs and new diagnostic procedures.	2002	NO200201298-A; AU2003212720-A1
PROTEMATION INC; CLARK R	Generating recombinant expression vector for functional genomics, involves contacting circular double-stranded donor DNA and circular acceptor vector in presence of recombinase to form single fused circular vector.	2000	AU200168627-A; US2004005591-A1
RIBOZYME PHARM INC; USMAN N; MCSWIGGEN J A; ZINNEN S; SEIWERT S; HAEBERLI P; CHOWRIRA B; BLATT L; VAISH N K	New nucleic acid sensor molecule useful in diagnostic applications, nucleic acid-based electronics and functional genomics, comprises an enzymatic nucleic acid and one or more sensors.	2000	AU200143454-A; EP1263947-A2; US2003065155-A1; JP2003525631-W
UNIV CALIFORNIA	A new software tool for integration and presentation of repeat and CpG dinucleotide distribution in a DNA sequence provides a graphical output useful in functional genomic analysis.	2000	AU200149701-A
WELGENE INC	Library of a multitude of single-stranded circular antisense nucleic acids, useful for functional genomics, and treatment of various disorders such as cancer, viral infection, metabolic and immunologic disorders.	2001	EP1402017-A1; AU2002236156-A1

14.4 Farmacogenética

Das 17 patentes focadas sobre farmacogenética, 16 são dos Estados Unidos e apenas 1 da Grã Bretanha:

Tabela dos **países depositantes** em farmacogenética:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Assaying a sample for a target polynucleotide or an amplification product using an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful in pharmacogenetic testing and forensics.	2000	AU200150937-A; US2004171039-A1
	Assessing if a subject is afflicted with type I diabetes or an NKT-associated condition, useful in diagnostic assays, prognostic assays or pharmacogenetics, by determining expression levels of markers associated with the disease.	2000	AU200175346-A; US2002039736-A1; EP1290227-A1; JP2004510411-W
	Detecting a polymorphism in an organic anion transporting polypeptide B gene (OATPB), for assessing the pharmacogenetics of a drug transportable by OATPB, comprises determining the sequence at one or more positions.	2001	EP1395680-A2; AU2002256786-A1; US2004171010-A1
	Detecting polymorphism in human sodium independent organic anion transporting polypeptide (OATP) 8 gene for accessing pharmacogenetics of drug transportable by OATP8.	2002	AU2003241042-A1
	Detecting polynucleotides, for pharmacogenetic testing, comprises contacting a target polynucleotide with a complementary single-stranded sensor polynucleotide and an agent that allows the sensor to fluoresce upon excitation.	2001	AU2002303387-A1
	Detecting the presence or absence of a first nucleotide at position within a strand of DNA, useful in gene typing, genotyping, disease diagnostics, prenatal testing, paternal determination, pharmacogenetics and forensic analysis.	2002	US2002142336-A1
	Diagnosing and analyzing a biological sample for detecting infectious bacterial or viral diseases and pharmacogenetic determinations, by utilizing an apparatus comprising a substrate having an assay station.	2002	US2003138819-A1; AU2002339833-A1; EP1461454-A2
	Diagnosing polymorphism in SLC10A2 in a human for assessing the pharmacogenetics of a drug for treating cardiovascular and hyperlipidemic conditions, by determining the status of the human by reference to polymorphism in SLC10A2.	2001	EP1402061-A2; AU2002251269-A1; US2004171004-A1
	Encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful when assaying a sample for a target polynucleotide and therefore in pharmacogenetic testing and forensics.	2000	AU200149386-A; EP1276904-A1; US2003165951-A1; JP2004500109-W
	New 33217 nucleic acid molecule useful for preventing or treating 33217-mediated or -related diseases, e.g. cancer, hyperlipidemia, atherosclerosis, also in screening assays, predictive medicine or pharmacogenetics.	2001	US2002173630-A1; EP1358324-A2; AU2002246591-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New 39362 polypeptide and nucleic acid molecule, useful for detecting, preventing or treating 39362-mediated or -related diseases, e.g. atherosclerosis, cancer, and in screening assays, in predictive medicine or pharmacogenetics.	2001	US2003096305-A1; AU2002246947-A1
	New ABCA10 transporter nucleic acid molecules and polypeptides, useful in screening assays or in predictive medicine, e.g. diagnostic assays, prognostic assays, monitoring clinical trials or pharmacogenetics.	2001	AU2002344853-A1
	New library of fusion nucleic acids each encoding a Rep protein recognized by a nucleic acid modification enzyme and a candidate protein, useful for detecting protein-protein interactions, protein drug discovery or pharmacogenetics.	2000	AU200067925-A; EP1212411-A2; KR2002059370-A; CN1378593-A; JP2003507063-W
	New library of prokaryotic pET-24a expression vectors, host cells or nucleic acid/protein conjugates, useful for screening candidate proteins and their nucleic acids or modification enzymes for pharmacogenetic analysis.	2000	US2003124537-A1; AU2002255451-A1
	Pharmacogenetic stratification of clinical drug trial patients by identifying genotype and phenotype association and separating patients into responders and non-responders is useful in new drug design.	2000	AU200151332-A; EP1303636-A1; US2004039554-A1; JP2004513609-W
	Sample preparation integrated chip for detecting and diagnosing diseases, and for pharmacogenetic determinations, includes substrate having assay station(s), multipurpose channels, sample fluid inlet(s), and isolation-medium inlet(s).	2002	US2003138941-A1; EP1440168-A2; AU2002363024-A1
Grã-Bretanha	New polymorphisms in the human P2X7 gene, useful e.g. in pharmacogenetics analysis and drug design.	2001	EP1199372-A2; JP2002330787-A; GB2372564-B; US2004137503-A1

Destas 17 patentes, 4 são da empresa Astrazeneca, indicadas a seguir:

Tabela dos **depositantes** em farmacogenética:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ASTRAZENECA AB; ASTRAZENECA UK LTD	Detecting polymorphism in human sodium independent organic anion transporting polypeptide (OATP) 8 gene for accessing pharmacogenetics of drug transportable by OATP8.	2002	AU2003241042-A1
	Detecting a polymorphism in an organic anion transporting polypeptide B gene (OATPB), for assessing the pharmacogenetics of a drug transportable by OATPB, comprises determining the sequence at one or more positions.	2001	EP1395680-A2; AU2002256786-A1; US2004171010-A1
	Diagnosing polymorphism in SLC10A2 in a human for assessing the pharmacogenetics of a drug for treating cardiovascular and hyperlipidemic conditions, by determining the status of the human by reference to polymorphism in SLC10A2.	2001	EP1402061-A2; AU2002251269-A1; US2004171004-A1
ASTRAZENECA AB; MORTEN J E N	New polymorphisms in the human P2X7 gene, useful e.g. in pharmacogenetics analysis and drug design.	2001	EP1199372-A2; JP2002330787-A; GB2372564-B; US2004137503-A1

As patentes dos demais depositantes são mostradas a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
QUANTUM DOT CORP	Assaying a sample for a target polynucleotide or an amplification product using an encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful in pharmacogenetic testing and forensics.	2000	AU200150937-A; US2004171039-A1;
	Encoded bead conjugate comprising a probe and a spectral code comprising a semiconductor nanocrystal, useful when assaying a sample for a target polynucleotide and therefore in pharmacogenetic testing and forensics.	2000	AU200149386-A; EP1276904-A1; US2003165951-A1; JP2004500109-W
NTU VENTURES PTE LTD; DEFENCE SCI & TECHNOLOGY AGENCY; GONG H; YAP E P H; AYI T C; DSO NAT LAB	Diagnosing and analyzing a biological sample for detecting infectious bacterial or viral diseases and pharmacogenetic determinations, by utilizing an apparatus comprising a substrate having an assay station.	2002	US2003138819-A1; AU2002339833-A1; EP1461454-A2
NTU VENTURES PTE LTD; DEFENCE SCI & TECHNOLOGY AGENCY; GONG H; YAP E P H; CHEN L; DSO NAT LAB	Sample preparation integrated chip for detecting and diagnosing diseases, and for pharmacogenetic determinations, includes substrate having assay station(s), multipurpose channels, sample fluid inlet(s), and isolation-medium inlet(s).	2002	US2003138941-A1; EP1440168-A2; AU2002363024-A1
ACTIVE PASS PHARM INC	New ABCA10 transporter nucleic acid molecules and polypeptides, useful in screening assays or in predictive medicine, e.g. diagnostic assays, prognostic assays, monitoring clinical trials or pharmacogenetics.	2001	AU2002344853-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
GENETICS INST INC; GEN HOSPITAL CORP; BYRNE M C; HILL A A; WILSON S B; GENETICS INST LLC	Assessing if a subject is afflicted with type I diabetes or an NKT-associated condition, useful in diagnostic assays, prognostic assays or pharmacogenetics, by determining expression levels of markers associated with the disease.	2000	AU200175346-A; US2002039736-A1; EP1290227-A1; JP2004510411-W
GENOME THERAPEUTICS CORP	Detecting the presence or absence of a first nucleotide at position within a strand of DNA, useful in gene typing, genotyping, disease diagnostics, prenatal testing, paternal determination, pharmacogenetics and forensic analysis.	2002	US2002142336-A1
GLAXO GROUP LTD; ROSES A D	Pharmacogenetic stratification of clinical drug trial patients by identifying genotype and phenotype association and separating patients into responders and non-responders is useful in new drug design.	2000	AU200151332-A; EP1303636-A1; US2004039554-A1; JP2004513609-W
MILLENNIUM PHARM INC; BANDARU R; MEYERS R E; GLUCKSMANN M A; CURTIS R A J; KAPELLER-LIBERMANN R; LEIBY K R	New 39362 polypeptide and nucleic acid molecule, useful for detecting, preventing or treating 39362-mediated or -related diseases, e.g. atherosclerosis, cancer, and in screening assays, in predictive medicine or pharmacogenetics.	2001	US2003096305-A1; AU2002246947-A1
MILLENNIUM PHARM INC; MEYERS R E; TSAI F	New 33217 nucleic acid molecule useful for preventing or treating 33217-mediated or -related diseases, e.g. cancer, hyperlipidemia, atherosclerosis, also in screening assays, predictive medicine or pharmacogenetics.	2001	US2002173630-A1; EP1358324-A2; AU2002246591-A1
UNIV CALIFORNIA; CHA J N	Detecting polynucleotides, for pharmacogenetic testing, comprises contacting a target polynucleotide with a complementary single-stranded sensor polynucleotide and an agent that allows the sensor to fluoresce upon excitation.	2001	AU2002303387-A1
UNIV JOHNS HOPKINS SCHOOL MEDICINE	New library of fusion nucleic acids each encoding a Rep protein recognized by a nucleic acid modification enzyme and a candidate protein, useful for detecting protein-protein interactions, protein drug discovery or pharmacogenetics.	2000	AU200067925-A; EP1212411-A2; KR2002059370-A; CN1378593-A; JP2003507063-W
XENCOR INC; LIU Y; LI M	New library of prokaryotic pET-24a expression vectors, host cells or nucleic acid/protein conjugates, useful for screening candidate proteins and their nucleic acids or modification enzymes for pharmacogenetic analysis.	2000	US2003124537-A1; AU2002255451-A1

14.5 Engenharia Genética

Das 182 patentes focadas em Engenharia Genética, os Estados Unidos são o principal país de depósito, com 67, seguido de perto pelo Japão, com 64, conforme tabela abaixo:

Tabela dos **top países depositantes** em Engenharia Genética:

País Depositante	Nº de Patentes
EUA	67
Japão	64
China	25
Alemanha	5
Rússia	4

As patentes por país são apresentadas a seguir:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	A composition comprising recombinase TnpI and the recombination substrate TRT or TRT' sequences, useful for genetic engineering, TnpI-mediated genetic recombination, or for gene therapy.	2001	EP1402022-A2; AU2002321140-A1
	A process for altering the visco:elasticity of a dough - comprises genetic engineering of a high molecular weight glutenin subunit containing a non-natural repetitive domain.	1996	AU9741747-A; US6174725-B1;
	An isolated nucleic acid comprising a maize Glycine Rich Protein promoter, useful for genetically engineering commercially important plants, e.g. maize, tomato and soybean.	2000	AU200145896-A; US6747189-B1
	Cationic lipid compositions for transfecting eukaryotic cells, useful in genetic engineering, gene therapy and as detection reagents in research.	1996	US6020202-A
	Chimpanzee adenovirus vector - useful in gene therapy and genetic engineering in general.	1996	AU9742553-A; US6083716-A
	Detecting transcription activity by detecting a nick in DNA is useful for genetic engineering and gene therapy techniques, and is particularly applicable to eukaryotic transcription factors.	1998	AU9961695-A; EP1117830-A1; JP2002527080-W
	Drug inducible expression vector for genetic engineering of transplantable primary bone marrow stromal cells, is capable of being regulated with native eukaryotic transactivator.	1999	AU200116852-A; EP1234047-A1; US2003031650-A1
	Genetically engineering a primate for expression of a desired gene, comprises introducing into the primate a transgene comprising Rous Sarcoma Virus (RSV) promoter and a nucleic acid sequence heterologous to RSV promoter.	1999	AU200119540-A; US2001049144-A1; EP1240345-A2; JP2003516147-W
	Genetically engineering coniferous plants useful for producing transgenic embryos and clonal planting stock for reforestation, involves transforming immature embryos by particle-mediated gene transfer.	1999	CA2274037-A1
EUA	Genetically engineering conifers of the genus Pinus comprises particle mediated transformation.	1999	AU9933165-A; ZA9903748-A; CA2274037-A1; BR9901778-A; NZ336149-A; US2002129405-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Genetically engineering immunoglobulin (Ig) G/IgG dimers for the treatment of cancers, allergic disorders and autoimmune conditions.	1999	AU200034731-A; EP1157042-A1; JP2002536969-W; AU775577-B2
	Genetically engineering orchids, particularly of the genus Cymbidium, using accelerated particle transformation, useful for providing resistance to disease and stress.	1998	US6020538-A
	Genetically engineering plant etioplasts.	1996	US5932479-A
	Genetically engineering the biosynthetic pathways in plants involved in the accumulation of sterol compounds and tocopherol to produce compounds for lowering the level of low density lipoprotein cholesterol in blood serum.	1999	AU200042316-A; EP1169462-A2; BR200010597-A; CN1360637-A; MX2001010304-A1
	House fly transposable Hermes element - used for genetic engineering of insects and insect cells of biomedical, agricultural or commercial importance.	1994	US5614398-A
	Human apolipoprotein (a) gene promoter - useful in genetic engineering and gene therapy and in the treatment of atherosclerosis.	1995	US5721138-A
	Hybrid yeast-bacteria cloning system, useful for cloning, manipulating and delivering large nucleic acids for a variety of genetic engineering purposes, e.g. in gene therapy or in vivo vaccination.	2000	AU200055972-A; EP1100884-A1; KR2001072339-A; JP2003501082-W
	Improving production of vanillin in cultured Vanillin planifolia - comprising addition of a substrate, heat or shear stress, genetic engineering of biosynthetic enzymes or inhibition of vanillyl alcohol dehydrogenase.	1997	AU9884121-A; EP1012235-A1; MX2000000526-A1
	Increasing resistance of neural cells expressing p75 nerve growth factor receptor to beta-amyloid peptide toxicity - by binding the receptor or genetically engineering cells to prevent its expression.	1994	AU9540051-A; US5677135-A
	Isolated DNA coding for the Helicobacter pylori J188 restriction endonuclease which may be used in genetic engineering and analysis methods.	1999	US6258583-B1
	Isolated nucleic acid encoding the Arabidopsis cytosolic acetyl CoA carboxylase useful in genetic engineering.	1997	US5962767-A
	Isolating nucleic acid using alkaline protease to prevent degradation by nuclease(s) - provides material pure enough for direct use in genetic engineering, hybridisation assays, forensic analysis etc..	1996	AU9738214-A; EP918877-A1; US5981235-A; JP2000516091-W; DE69730974-E
	Large scale production of recombinant adenoviral vectors for use in genetic engineering.	1998	AU200017234-A; EP1135469-A1
	Making organ for implantation into human, by genetically engineering non-human animal (e.g., pig) having alpha 1-3 galactosyl epitopes on its cells to decrease or prevent expression of the galactosyl epitopes on cells.	2001	US2002152488-A1
	Methods for introducing adenovirus into cells - used for genetic engineering and gene therapy.	1996	US5712136-A
EUA	Modified adenovirus fibre proteins for genetically engineering cells - having carboxy-terminal peptide linker to alter specificity or to attach ligands..	1994	AU9521954-A; EP753068-A1; JP10501684-W; US2002076419-A1;

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Modulating exogenous gene expression useful for inducing or suppressing expression in animal and plant cells for genetic engineering.	1999	EP965644-A2; JP2000037189-A; AU9933900-A; BR9902283-A; CN1251389-A; KR2000006256-A; MX9905570-A1; US2001044151-A1
	New collection of genomic DNA clones individually isolated and arrayed on a solid support matrix, useful for effecting gene targeted genetic engineering of embryonic stem cells in producing genetically engineered animals.	2000	US2002031829-A1; AU200183395-A; EP1309681-A2; JP2004512829-W
	New compositions comprising transcomplementary vectors, useful in genetic engineering protocols (e.g. gene delivery, antisense type strategies, diagnosis or gene therapy) to increase gene transfer efficiency of viral vectors.	2000	AU200165219-A; US2002042139-A1; EP1287153-A2
	New DNA molecule, useful in plant genetic engineering, e.g. for introducing sucrose phosphorylase activity into plants, therefore increasing the rate of sucrose hydrolysis, leading to increased starch, oil and protein levels.	1998	US6222098-B1
	New DNA sequence comprising a ribonucleotide reductase 1b (RNR1b) promoter E2F binding motif, useful in the genetic engineering of plant genomes, particularly for inducing a S-phase or a meristem-specific gene expression in plants.	2002	AU2003237970-A1
	New genetically modified plant with a genome having a heterologous nucleotide sequence operably associated with a regulatory region, useful in genetic engineering of plants with early meristem flower development.	2001	US2003167539-A1
	New hybrid meganuclease, useful for genetic engineering or gene therapy, comprises altered target specificity.	2002	US2004002092-A1; AU2003215869-A1
	New isolated DNA molecule useful for genetic engineering of plants or for improving the expression of transgenes in plants, particularly corn plants.	2002	AU2003256373-A1; US2004158887-A1
	New isolated or purified plant retroviral or retroviral-like polynucleotides, useful for genetic engineering in plants, particularly in introducing genetic information into soybeans and other plant species.	2002	US2003221222-A1; AU2003220535-A1
	New isolated OsEMF1 nucleic acid molecule and encoded polypeptide, useful for plant genetic engineering, in particular controlling reproductive development in rice.	2001	US2002157137-A1; AU2002311840-A1
	New isolated plant DNA molecules regulating gene expression, useful in plant genetic engineering to produce transgenic plants with agronomically important characteristic or traits.	2001	US2003131377-A1; AU2002324637-A1
	New isolated polynucleotide encoding a promoter capable of directing transcription in a flower plant, useful in plant genetic engineering, particularly for incorporating various selected genes of interest into transformed plants.	2002	AU2003217852-A1; US2004139501-A1; EP1481069-A2
	New MmeI or MmeI-like restriction endonucleases and their encoding DNAs, useful in genetic engineering and research.	2002	US2004091911-A1; AU2003253865-A1
EUA	New organelle targeting nucleic acid and amino acid sequences are useful in genetic engineering for modulating the subcellular localization of heterologous proteins in plants.	1998	AU9957794-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New plant regulatory DNA sequences, useful for selectively controlling gene expression and for modifying plants through genetic engineering to have the desired morphology, physiology, growth or nutritional enhancement.	1999	AU200069477-A; BR200013728-A; EP1214402-A2; CN1387572-A; US2003131375-A1
	New plant retrovirus sequence, SIRE-1 - useful for, e.g. genetic engineering in plants.	1996	EP955803-A1; JP2001500009-W; US2003154511-A1
	New polynucleotide from Bacillus subtilis, which encodes delta endotoxins or pesticide proteins, useful in plant genetic engineering, particularly for producing plants that are resistant to lepidopteran or coleopteran pests.	1999	US6603063-B1
	New recombinant DNA molecule for plant genetic engineering, comprises a promoter sequence, a 5' non-translated leader sequence, an intervening sequence, a DNA coding sequence, and a 3' non-translated terminator sequence.	1999	US2002192813-A1
	New seed of corn inbred line, designated 5020, useful as a crop, and as the starting material for producing further corn varieties by plant crossing or genetic engineering.	2002	US2004088768-A1
	New seed of corn inbred line, designated 6803, useful as a crop and for generating further corn varieties by plant crossing or genetic engineering.	2002	US2004088767-A1
	New smooth muscle myosin heavy chain promoter/enhancers, useful for smooth muscle tissue-specific targeting and expression, or for genetic engineering as a means to investigate smooth muscle cell physiology and pathophysiology.	2001	EP1360191-A4; US2003017549-A1; AU2002237928-A1
	New soybean variety (91B64) is useful in plant breeding programs to produce superior hybrids and genetic engineering.	1998	US5977445-A
	New substantially pure nucleotide sequence comprising a P-PII coding sequence, useful for genetic engineering of plants to overexpress wild-type or mutant P-PII regulatory protein.	2001	US2004002053-A1
	New Type II restriction endonuclease Hpy188III, obtainable from Helicobacter pylori J188, useful as tools in genetic research, particularly as biochemical scissors by means of which genetic engineering and analysis is performed.	1999	US6238901-B1
	Novel multiviral compositions used for the in vivo genetic engineering of mammalian cells.	1998	EP1078096-A1
	Novel nucleic acid molecule encoding promoter of a sugarcane proline rich protein, useful for genetically engineering sugarcane or other monocots for producing high value proteins such as pharmaceutical proteins.	2000	AU200148155-A; US2004073965-A1
	Novel plant proteins used in cell cycle regulation studies and for genetic engineering to enhance cell growth.	1998	AU9934785-A; EP1068335-A2
	Nucleic acid encoding a human neuropeptide Y receptor useful in genetic engineering.	1995	US6316203-B1
	Nucleic acid molecules encoding sodium/proton transport polypeptides, useful in genetic engineering salt tolerance in crop plants.	1999	AU9928214-A; US2003046729-A1
EUA	Nucleic acids encoding secreted galactosyltransferase polypeptides, useful in genetic engineering, diagnosis and therapy.	1999	US6312922-B1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Preparing a library of double-stranded polynucleotides, e.g. for genetic engineering, comprises providing a first and a second population of double-stranded polynucleotides and coupling the second to the first population.	2001	AU2002363537-A1
	Preparing ribonucleoprotein particles with nucleotide integrase activity useful in genetic engineering.	1998	US6001608-A
	Producing custom-made meganuclease, useful for genetic engineering and for preventing, improving or curing a genetic or infectious disease, comprises preparing a library of meganuclease variants from an initial meganuclease.	2003	WO2004067736-A2
	Raspberry promoters dru1, dru110 and dru259 - used for genetic engineering of plants, e.g. to provide moderate expression of selectable marker allowing growth in presence of selective agent.	1997	AU9717559-A; US5783394-A; EP877814-A1; JP2000503847-W; KR99082128-A
	Recombinant adeno-associated virus (AAV) - comprises T7 polymerase, AAV rev and cap genes and AAV inverted repeats flanking trans-gene of interest, used in, e.g. genetic engineering.	1996	AU9741833-A; EP931158-A1; MX9902216-A1; JP2001500015-W
	Recombinant adeno-associated virus (AAV) production - using cre recombinase and loxP sites; useful in genetic engineering and gene therapy.	1996	AU9741830-A; EP950111-A1; MX9902218-A1; JP2001500014-W; US2002102714-A1;
	Reducing squalene epoxidase activity in plants by genetic engineering - co-suppression, antisense or ribozyme sequences are incorporated into the plant genome; useful as source of squalene.	1996	AU9720891-A; US6153815-A
	Regenerating large number of viable and fertile transformed mint plants in vitro useful for micropropagation and genetic engineering, comprises using tissue culture technique using small tissue of the plant as starting material.	1999	US6323394-B1
	Rice promoter sequences (I) useful in plant genetic engineering and molecular biology studies.	2000	AU200159185-A; US2003131385-A1
	Screening nucleic acid sequences derived from the mRNA of untranslated regions (UTRs) of genes of therapeutic interest, to identify UTRs that contain novel post transcriptional elements useful for genetic engineering.	2000	AU200157428-A; US2004091866-A1
	Transforming cells of marine organism or eukaryotic algae - by introducing DNA containing zeocin resistance determinant into cells and selecting for transformants, useful in genetic engineering of eukaryotic algae.	1996	US6027900-A
Japão	Amplifying a target nucleic acid in sample, useful in e.g. clinical applications, genetic engineering and for assaying blood, urine, plant and animal tissues and environmental materials like soil and food.	2001	AU200178783-A; US2003073081-A1; EP1312682-A1; KR2003036707-A; JP2002522309-X; CN1471588-A
	Artificial chromosome with mammalian type telomere sequence - useful in genetic engineering and gene therapy.	1996	AU9743187-A; EP959134-A1; JP10514517-X; US2004219634-A1
Japão	Baculovirus vector contg. DNA encoding terminal deoxy:nucleotidyl transferase - useful for culture and prepn. of enzyme, which is used as a reagent in genetic engineering.	1994	JP7327682-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Biobeads having foreign genetic or physiologically-active substance immobilized to calcium alginate, for use e.g. in genetic engineering, gene therapy and drug delivery systems.	2002	JP2003274950-A; AU2003211874-A1
	Brevibacterium flavum MJ-233 secretory protein signal peptide variant - useful in genetic engineering for the production of secreted recombinant proteins.	1996	JP9316095-A
	cDNA encoding vascular vasopressin receptor (VR) - used to detect expression of VR gene in various tissues and for prodn. of VR by genetic engineering.	1994	JP8080193-A
	Dehydration stress protective agent for use in genetic engineering, foodstuff industry and pharmaceutical industry for e.g. storing microorganisms, comprises sericin as an active ingredient.	2000	JP2002101869-A
	Detecting interacting proteins for genetic engineering purposes involves using reverse two hybrid method with galactose sensitivity of the microorganism as the parameter.	1998	JP2000157269-A
	Determining base sequence of nucleic acid applicable in high-throughput systems by shot-gun sequencing e.g. of wide region of genome sequence, useful in genetic engineering and gene analysis.	2002	AU2003213377-A1
	DNA fragment contg. gene encoding GroEL protein - derived from Coryneform bacteria, used for recombinant prodn. of GroEL protein and in genetic engineering of bacteria.	1994	JP8070873-A
	DNA fragments encoding plant promoters useful in genetic engineering of plants.	1999	AU200115572-A; EP1234881-A1; JP2001542535-X; US2003145344-A1
	Endonuclease I from super-thermophilic archaebacteria, P.furiosus - useful for genetic engineering.	1994	JP8070863-A
	Experimental animal preparation - by using genetic engineering techniques.	1996	JP9238594-A
	Expression unit comprising diphtheria receptor and promoter - for producing knockout animals, useful in genetic engineering for producing transgenic animals.	1997	AU9856797-A; EP972829-A1; JP10532724-X; US2002194626-A1
	Fungal chromosome integration vector contg. aureobasidin resistance gene - which acts as selection marker, useful in genetic engineering of fungi.	1995	CN1122369-A; EP692534-B1; DE69504596-E; US6348577-B1; JP3369030-B2; KR391221-B
	Gene over-expression systems obtained by genetic engineering with stable transfer of genes for producing useful gene products or other substances, applicable in modifying and analysis of functions.	2002	JP2003164295-A; EP1437405-A1; BR200212649-A; AU2002330401-A1
	Gene transfer apparatus - useful for genetic engineering.	1998	JP11206372-A
	Genetic engineering using a spin probe which directly controls the spin electronic state on each component of a DNA, so that the end of the DNA is radicalized, and phosphoric acid double helix is chemically cleaved.	2001	JP2003125768-A
Japão	Human artificial chromosome vectors comprising fragments of chromosomes 21 and 14, useful in producing specific proteins and in cloning and genetic engineering.	2002	AU2003271095-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Human cyclin A gene derived growth-responsive element - useful to control multiplication of cells in genetic engineering and recombinant protein prodn..	1994	JP8154686-A
	Induction of site directed mutagenesis - useful in, e.g. genetic engineering methods.	1996	AU9733594-A; JP10505831-X; EP987326-A1; KR2000022394-A; US2004214170-A1
	Isolating nucleic acid from a leukocyte-containing sample for use in e.g. genetic engineering, comprises contacting the sample with a water-insoluble solid support so that the nucleic acid is adsorbed to the support surface.	2002	JP2003204799-A
	Isolation of plant de-oxy-ribo nucleic acid (DNA) - useful for genetic engineering in plants.	1997	JP11169170-A
	Isolation of single stranded and/or double stranded nucleic acid in sample for use in genetic engineering, involves pre-treating sample and sequentially washing support with liquids containing preset salt concentration.	2002	JP2003235555-A
	Magnetospirillum-originated magnetic particle membrane-specific protein Mms16 with guanosine triphosphatase activity, obtainable by genetic engineering, useful in diagnosis by sandwich immunoassay methods and drug compositions.	2000	JP2002176989-A; US2004048289-A1
	Manufacturing method of fertilized egg artifact with shell in genetic engineering for hatching egg, involves injecting external substances into egg through an opening formed by removing egg shell piece.	1999	JP2001078620-A
	Mass production of nerve nutrition factor by genetic engineering - by culturing transformed E.coli, to produced fused type or mature nerve nutrition factor.	1994	JP7213289-A
	Method for concentrating mutated nucleic acid - from a mixture contg. normal and mutated nucleic acids, for use in genetic engineering techniques.	1995	EP852263-A1; JP9511840-X; US6017739-A
	Method for constructing self-assembly of probes by preparing dimer probes and increasing types, useful in detecting target genes for application in clinical examination, genetic engineering and molecular biology.	2000	AU200194199-A; EP1304386-A1; US2003087262-A1; JP2002534557-X
	Method for expressing foreign gene - comprises inserting gene downstream from promoter comprising at least two introns, useful in, e.g. genetic engineering.	1996	AU9731065-A; CN1195376-A; KR99036203-A; US6214578-B1; JP2003116553-A; EP1350850-A2
	Method for synthesis and amplification of nucleic acid containing target sequence by chain-substitution reaction with specific primers, applicable for gene analysis particularly in genetic engineering.	2002	AU2003280603-A1
	Micro channel array apparatus for use in genetic engineering has aperture formed on silicon substrate to trap cells between the silicon and glass substrates.	2000	JP2002027969-A
	Mutant DNA polymerase - lacking exonuclease activity in 5' to 3' direction, useful as reagent for research purposes in genetic engineering.	1995	JP9131181-A
Japão	New carrot root gene, promoter and terminator - useful in genetic engineering for directing root-specific gene expression.	1996	JP10052273-A; CA2212592-A; US5959176-A; EP824150-B1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New CHSE-214 cell line derived from Oncorhynchus tshawytscha (Chinook salmon) which may be cultured in serum free medium, useful as host cell in genetic engineering, e.g., for virus production and research purposes.	2002	JP2003219873-A
	New DNA array, useful for gene sequencing and genetic engineering procedures, comprises DNA fragment arranged on plastic tape support body, with gene sequence arranged in one row.	1999	JP2001074744-A
	New DNA polymerase gene - useful in genetic engineering.	1997	JP11151087-A
	New enzymes that transfer N-acetylglucosamine to galactose via a beta-1,6 bond, are useful in genetic engineering.	2001	JP2003199575-A; AU2002367265-A1
	New method for heterogenic ubiquinone production - allows the side chain of ubiquinone to be freely modified by genetic engineering methods.	1995	JP9173076-A
	New modified endonuclease capable of recognizing specific nucleotide sequence, useful for genetic engineering techniques.	1998	EP972836-A2; JP2000041686-A; US6528296-B1
	New protein and a DNA encoding it - useful in genetic engineering for various analyses.	1996	JP10001497-A
	Novel BamHI restriction enzyme with improved heat and solvent stability, useful in genetic engineering.	2002	JP2003259876-A
	Novel beta fructofuranosidase gene useful for producing beta fructofuranosidase and for developing variant enzymes that have increased heat resistance and transfer ratio by means of genetic engineering techniques.	1999	CA2298400-A1; JP2000342273-A; US6284510-B1
	Novel cultured cell of deep sea biological tissue comprising precursor fat-like cell derived from fin of deep sea living organism Ilyophis brunneus, useful in genetic engineering.	2002	JP2004166575-A
	Novel dead horse Hm-aox gene encoding dead horse derived heat generating Hm-pre-Aox protein, useful in genetic engineering for crop breeding such as development of low temperature avoidance plant, and for treating diabetes and obesity.	2003	JP2004298104-A
	Novel heat-resistant DNA helicase enzyme useful as reagent in genetic engineering techniques.	2002	JP2004121069-A
	Novel isolated polynucleotide concerned in biosynthesis of gentamycin, useful for producing gentamycin and new active substances by genetic engineering.	2002	JP2004180638-A
	Novel isolated polynucleotide concerned in biosynthesis of kanamycin, useful for producing kanamycin and new active substances by genetic engineering.	2002	JP2004173537-A
	Novel N-acetylgalactosamine transferase and encoded nucleic acid, applicable in genetic engineering of sugar chains e.g. chondroitin (sulfate) derivatives, and in developing drugs and diagnosis of thyroid cancer.	2002	JP2003289883-A; AU2003238624-A1
	Nsp7524III restriction endonuclease and its gene - useful in genetic engineering methods, e.g. vector construction and cloning.	1996	JP9191885-A
Japão	Nucleic acid fragments allowing high level promotion and expression of structural genes located downstream from them, particularly useful in plant genetic engineering to introduce foreign genes with stable transcription.	1998	JP2000152785-A; AU9958845-A; EP1050580-A1; CN1292819-A; KR2001034142-A;

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Polypeptides with thermotolerant ribonuclease H activity and genes encoding them for genetic engineering application.	2001	AU200186211-A; EP1318197-A1; KR2003031178-A; JP2002527273-X; US2004038366-A1; CN1474873-A
	Promoter DNA for genetic engineering of algae.	2002	AU2003211719-A1; EP1477560-A1
	Protein di:sulphide isomerase immobilised on resin - useful for reactivating proteins, including those produced by genetic engineering.	1994	JP7227283-A
	Purifying a urokinase precursor obtained by genetic engineering - by absorption using particles floating in fluidised bed.	1996	JP9187274-A
	Record keeping system for genetic engineering applications, includes cryopreservation unit which preserves living body cell coinciding with individual data recorded in recording medium.	2000	JP2002157438-A
	Regulating local gene expression for use in genetic engineering, involves irradiating laser on local area of bion, raising temperature of local area and causing site-specific recombination of gene by heat-shock.	1999	JP2001136962-A
	Restriction endonuclease cleaves specific 7 bp double stranded DNA - useful in genetic engineering, partic. of high mol. wt. DNA, e.g. in genome analysis.	1994	CN1120069-A; US5726052-A; JP3017019-B2; EP698663-B1; DE69516060-E
	Ribonuclease specifically cleaving hybridised RNA section - useful in genetic engineering, and in diagnosis and therapy.	1995	JP9019289-A
	Sesame omega-3 aliphatic acid desaturase gene - useful in genetic engineering to modify fats and oils in agricultural products.	1995	JP9065882-A
	Thermally stable ribonuclease H derived from Archaeoglobus profundus for use in genetic engineering.	2002	AU2003257699-A1
	Tissue-specific and environmental stress-specific promoter for control and regulation of gene expression in selected parts under various conditions, useful in genetic engineering and agriculture.	2002	JP2004016153-A; AU2003244306-A1
	Use of a regulatory gene and growth substance - by genetic engineering to suppress and cure diseases by pathogenic microorganisms.	1994	JP8112093-A
	Yeast belonging to Saccharomyces cerevisiae strain useful in foodstuffs, pharmaceutical or cosmetics, contains specific amount of glutathione per dry microbial cell and is obtained without using genetic engineering technique.	2002	JP2004180509-A
China	Construction of an illuminating protein gene vector and an illuminating gene immune diagnostic reagent, for diagnosing hepatitis, comprises genetic engineering.	1996	CN1175639-A
	Construction of transgenic economic seaweeds by genetic engineering, useful in producing e.g. laver, kelp, agar-agar and other seaweeds in large quantities for extracting gel, alginic acid and other value-added products.	2003	CN1524955-A
China	Expressing recombinant fish growth hormone gene in yeast - useful for genetically engineering a yeast pichia pastoris with a fish somatotropin gene.	1997	CN1207415-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Expression of human hepatitis C virus protein in engineering bacteria, for use in diagnosis, comprises genetic engineering.	1996	CN1175637-A
	Fab antibody of human resourced neutrality genetic engineering for anti human cytomegalo virus.	2002	CN1445243-A
	Gene-entrain system including fusion protein with core sequence of histone producible by genetic engineering technology, useful for transfer of foreign DNA e.g. in tumor gene therapy.	2002	CN1470531-A; AU2002327321-A1
	Genetic engineering an immune toxin of anti-carcinoma of bladder.	1999	CN1229799-A
	Genetic engineering for recombining scorpion venom rBmKaIT1.	2002	CN1373219-A
	Genetic engineering fungus oral prepration capable of expressing active phenylalanine deaminase.	1996	CN1154845-A
	Genetic engineering synthesis method of horseshoe crab extract as anti-fungus polypeptide.	1996	CN1182135-A
	Genetically engineering monoclonal anti-digoxin single-stranded antibody and its use.	2001	CN1375505-A
	Glularyl-7-amino-cephalo-alkanoic acid acylase - is modified by genetic engineering to increase the activity of the enzyme.	1997	CN1219587-A
	Growth chalone as one genetic engineering matter and its live carrier vaccine.	2000	CN1267724-A
	Method for preparing medicine for growing leukocyte by Chinese silkworm production using genetic engineering.	1997	CN1231183-A
	Method for producing glucokinase - by genetic engineering using a recombinant bacteria.	1998	CN1207414-A
	Multi-division centrifugal tube for genetic engineering comprises a tubular body, cover, sealing plate and protecting film.	2001	CN1334338-A
	Mutational 2,5 diketo-D-gluconic acid reductase and its genetic engineering expression - has high catalytic activity.	1997	CN1221792-A
	Plant agglutinin gene originating from Amaranthus caudatus, for transgenic plants with antiaphid activity and enhanced nutritional quality, useful in plant antiaphid genetic engineering and producing improved plants.	2000	AU200221465-A; CN1353187-A; US2004023270-A1
	Preparation of thrombolytic medicine comprises polymerase chain reaction gene magnification to extract proteinase gene from a Bacillus subtilis to strongly decomposing fibrin and transferring to obtain genetic engineering bacteria.	1999	CN1263778-A
	Preparing recombinant human plasminogen kringle 5 mutant protein rhpk-5 using genetic engineering and protein engineering.	2002	CN1420126-A
	Preparing reversible photochromic biliprotein comprises genetic engineering to express the apoprotein of photochrome reversible photochromic biliprotein and phycocyanin lyase lyzed from phycocyanin.	2003	CN1443849-A
	Producing erythrocyte irritable factor/granulocyte colony irritable factor fusion protein by genetic engineering.	2001	CN1311332-A
China	Silk fibroin transgenic cotton fibre and genetic engineering process for preparing it.	2002	CN1369560-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Synthetic chimeric peptide of human chorionic gonadotrophin genetic engineering and its preparation method.	2003	CN1446825-A
	Tomato plant production by genetic engineering.	1995	CN1116238-A

Com relação aos depositantes, o de maior expressão é a empresa TAKARA, com 11, de acordo com a tabela abaixo:

Tabela dos top **depositantes** em Engenharia Genética:

Depositante ou (Corporação)	Nº de Patentes
TAKARA	11
KAGAKU GIJUTSO	6
UNIV PENNSYLVANIA	5
MONSANTO CO	4
SANGYO GIJUTSO	3
MITSUBISHI CHEM CORP	3
NEW ENGLAND BIOLABS INC	3
JAPAN TOBACCO INST	3

As patentes das empresas top e suas respectivas informações são apresentadas nas tabelas a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
TAKARA SHUZO CO LTD; TAKARA BIO INC	Amplifying a target nucleic acid in sample, useful in e.g. clinical applications, genetic engineering and for assaying blood, urine, plant and animal tissues and environmental materials like soil and food.	2001	AU200178783-A; US2003073081-A1; EP1312682-A1; KR2003036707-A; JP2002522309-X; CN1471588-A
TAKARA SHUZO CO LTD; MORINAGA & CO LTD	Protein di:sulphide isomerase immobilised on resin - useful for reactivating proteins, including those produced by genetic engineering.	1994	JP7227283-A
TAKARA BIO INC	Determining base sequence of nucleic acid applicable in high-throughput systems by shot-gun sequencing e.g. of wide region of genome sequence, useful in genetic engineering and gene analysis.	2002	AU2003213377-A1
	Thermally stable ribonuclease H derived from Archaeoglobus profundus for use in genetic engineering.	2002	AU2003257699-A1
TAKARA SHUZO CO LTD	Induction of site directed mutagenesis - useful in, e.g. genetic engineering methods.	1996	AU9733594-A; JP10505831-X; EP987326-A1; KR2000022394-A; US2004214170-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Mutant DNA polymerase - lacking exonuclease activity in 5' to 3' direction, useful as reagent for research purposes in genetic engineering.	1995	JP9131181-A
	New DNA polymerase gene - useful in genetic engineering.	1997	JP11151087-A
	Nsp7524III restriction endonuclease and its gene - useful in genetic engineering methods, e.g. vector construction and cloning.	1996	JP9191885-A
	Restriction endonuclease cleaves specific 7 bp double stranded DNA - useful in genetic engineering, partic. of high mol. wt. DNA, e.g. in genome analysis.	1994	JP8038171-A; CN1120069-A; US5726052-A; EP698663-B1; DE69516060-E
TAKARA SHUZO CO LTD; TAKARA BIO INC;UEMORI T; SATO Y; KOYAMA N; HIRANO R; TAKAKURA H; KOBORI H; HASHIMOTO Y	Polypeptides with thermotolerant ribonuclease H activity and genes encoding them for genetic engineering application.	2001	AU200186211-A; EP1318197-A1; KR2003031178-A; JP2002527273-X; US2004038366-A1; CN1474873-A
TAKARA SHUZO CO LTD; TAKARA SHUZO KK	Fungal chromosome integration vector contg. aureobasidin resistance gene - which acts as selection marker, useful in genetic engineering of fungi.	1995	JP8322578-A; CN1122369-A; EP692534-B1; DE69504596-E; US6348577-B1; JP3369030-B2; KR391221-B

A seguir, podem ser visualizadas as patentes das demais empresas top:

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
KAGAKU GIJUTSU SHINKO JIGYODAN	Detecting interacting proteins for genetic engineering purposes involves using reverse two hybrid method with galactose sensitivity of the microorganism as the parameter.	1998	JP2000157269-A
	Genetic engineering using a spin probe which directly controls the spin electronic state on each component of a DNA, so that the end of the DNA is radicalized, and phosphoric acid double helix is chemically cleaved.	2001	JP2003125768-A
	New CHSE-214 cell line derived from Oncorhynchus tshawytscha (Chinook salmon) which may be cultured in serum free medium, useful as host cell in genetic engineering, e.g., for virus production and research purposes.	2002	JP2003219873-A
	Regulating local gene expression for use in genetic engineering, involves irradiating laser on local area of bion, raising temperature of local area and causing site-specific recombination of gene by heat-shock.	1999	JP2001136962-A
KAGAKU GIJUTSU SHINKO JIGYODAN; JAPAN SCI & TECHNOLOGY CORP	Tissue-specific and environmental stress-specific promoter for control and regulation of gene expression in selected parts under various conditions, useful in genetic engineering and agriculture.	2002	JP2004016153-A; AU2003244306-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
KAGAKU GIJUTSU SHINKO JIGYODAN; JAPAN SCI & TECHNOLOGY CORP; MATSUNAGA T; TAKEYAMA H; OKAMURA Y	Magnetospirillum-originated magnetic particle membrane-specific protein Mms16 with guanosine triphosphatase activity, obtainable by genetic engineering, useful in diagnosis by sandwich immunoassay methods and drug compositions.	2000	JP2002176989-A; US2004048289-A1
UNIV PENNSYLVANIA	Chimpanzee adenovirus vector - useful in gene therapy and genetic engineering in general.	1996	AU9742553-A; US6083716-A
	Recombinant adeno-associated virus (AAV) - comprises T7 polymerase, AAV rev and cap genes and AAV inverted repeats flanking trans-gene of interest, used in, e.g. genetic engineering.	1996	AU9741833-A; EP931158-A1; MX9902216-A1; JP2001500015-W
UNIV PENNSYLVANIA; ARIAD GENE THERAPEUTICS INC; RIVERA V; ZOLTICK P; WILSON J M	Genetically engineering a primate for expression of a desired gene, comprises introducing into the primate a transgene comprising Rous Sarcoma Virus (RSV) promoter and a nucleic acid sequence heterologous to RSV promoter.	1999	AU200119540-A; US2001049144-A1; EP1240345-A2; JP2003516147-W
UNIV PENNSYLVANIA; ARIAD GENE THERAPEUTICS INC	Novel multiviral compositions used for the in vivo genetic engineering of mammalian cells.	1998	EP1078096-A1
UNIV PENNSYLVANIA; WILSON J M; PHANEUF D	Recombinant adeno-associated virus (AAV) production - using cre recombinase and loxP sites; useful in genetic engineering and gene therapy.	1996	AU9741830-A; EP950111-A1; MX9902218-A1; JP2001500014-W; US2002102714-A1
MONSANTO CO; MONSANTO TECHNOLOGY LLC	Genetically engineering the biosynthetic pathways in plants involved in the accumulation of sterol compounds and tocopherol to produce compounds for lowering the level of low density lipoprotein cholesterol in blood serum.	1999	AU200042316-A; EP1169462-A2; BR200010597-A; CN1360637-A; MX2001010304-A1
MONSANTO CO	New DNA molecule, useful in plant genetic engineering, e.g. for introducing sucrose phosphorylase activity into plants, therefore increasing the rate of sucrose hydrolysis, leading to increased starch, oil and protein levels.	1998	US6222098-B1
MONSANTO TECHNOLOGY LLC; ANDERSON H; CONNER T; SANTINO C; ANDERSON H M; CONNER T W; SANTINO C G	New isolated plant DNA molecules regulating gene expression, useful in plant genetic engineering to produce transgenic plants with agronomically important characteristic or traits.	2001	US2003131377-A1; AU2002324637-A1
MONSANTO TECHNOLOGY LLC; MONSANTO TECHNOLOGIES CO; RENESSEN LLC	New plant regulatory DNA sequences, useful for selectively controlling gene expression and for modifying plants through genetic engineering to have the desired morphology, physiology, growth or nutritional enhancement.	1999	AU200069477-A; BR200013728-A; EP1214402-A2; CN1387572-A; US2003131375-A1
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; NAT INST ADVANCED IND SCI & TECHNOLOGY; AMERSHAM BIOSCIENCES KK; FUJIREBIO INC; AMERSHAM PHARMACIA BIOTECH KK	Novel N-acetylgalactosamine transferase and encoded nucleic acid, applicable in genetic engineering of sugar chains e.g. chondroitin (sulfate) derivatives, and in developing drugs and diagnosis of thyroid cancer.	2000	JP2003289883-A; AU2003238624-A1
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; NAT INST ADVANCED IND SCI & TECHNOLOGY; AMERSHAM BIOSCIENCES KK; FUJIREBIO INC; JGS KK	New enzymes that transfer N-acetylglucosamine to galactose via a beta-1,6 bond, are useful in genetic engineering.	2001	JP2003199575-A; AU2002367265-A1

Depositantes	Título da Patente	Ano de Prioridade	Número da Patente
DOKURITSU GYOSEI HOJIN SHOKUHIN SOGO KEN; KIKUCHI Y	Micro channel array apparatus for use in genetic engineering has aperture formed on silicon substrate to trap cells between the silicon and glass substrates.	2002	JP2002027969-A
MITSUBISHI CHEM CORP	New protein and a DNA encoding it - useful in genetic engineering for various analyses.	1996	JP10001497-A
	Brevibacterium flavum MJ-233 secretory protein signal peptide variant - useful in genetic engineering for the production of secreted recombinant proteins.	1996	JP9316095-A
	DNA fragment contg. gene encoding GroEL protein - derived from Coryneform bacteria, used for recombinant prodn. of GroEL protein and in genetic engineering of bacteria.	1994	JP8070873-A
NEW ENGLAND BIOLABS INC; UNIV VANDERBILT	New MmeI or MmeI-like restriction endonucleases and their encoding DNAs, useful in genetic engineering and research.	1999	US2004091911-A1; AU2003253865-A1
	New Type II restriction endonuclease Hpy188III, obtainable from Helicobacter pylori J188, useful as tools in genetic research, particularly as biochemical scissors by means of which genetic engineering and analysis is performed.		US6238901-B1
NEW ENGLAND BIOLABS INC; MORGAN R D; BHATIA T; DAVIS T; LOVASCO L	Isolated DNA coding for the Helicobacter pylori J188 restriction endonuclease which may be used in genetic engineering and analysis methods.	2002	US6258583-B1
JAPAN TOBACCO INC	Method for expressing foreign gene - comprises inserting gene downstream from promoter comprising at least two introns, useful in, e.g. genetic engineering.	1995	AU9731065-A; CN1195376-A; KR99036203-A; US6214578-B1; JP2003116553-A; EP1350850-A2
	Ribonuclease specifically cleaving hybridised RNA section - useful in genetic engineering, and in diagnosis and therapy.	1996	JP9019289-A
JAPAN TOBACCO INC; NIPPON TOBACCO SANGYO KK	Nucleic acid fragments allowing high level promotion and expression of structural genes located downstream from them, particularly useful in plant genetic engineering to introduce foreign genes with stable transcription.	1998	JP2000152785-A; AU9958845-A; EP1050580-A1; CN1292819-A; KR2001034142-A

14.6 Nanobiotecnologia

O termo “Nanobiotecnologia” apresentou 56 patentes no período estudado, sendo 17 da Alemanha 13 dos Estados Unidos e 16 do Japão, de acordo com a tabela abaixo:

Tabela dos top **países depositantes** em Nanobiotecnologia:

País Depositante	Nº de Patentes
Alemanha	17
Japão	16
EUA	13

As patentes por país são mostradas a seguir:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Alemanha	Affinity sensor for chemical and biological materials, useful e.g. in clinical diagnosis, based on binding of microparticles to specific binding regions of a support and optical detection.	1999	DE19943704-C1; EP1216310-A1
	Apparatus for applying micro- or nanoparticles of magnetically interacting material, loaded with e.g. nucleic acids to a carrier, comprises a dispensing device with pipettes arranged in the same pattern as recesses for the particles.	2000	DE10027608-C2
	Applying micro- or nanoparticles of magnetically interacting material, loaded with e.g. nucleic acids to a magnetic carrier for analysis, comprises applying an external magnetic field to accelerate particles into recesses.	2000	DE10027607-C2
	Detecting molecular binding using a transmitted-light film scanner, for the development of new active substances for medicine, comprises using a transparent substrate, affinity sensor and indicators bonded with nanoparticles.	2001	DE10120349-B4
	Detection probes used in bioassays e.g. for determining nucleic acids, based on luminescent doped inorganic nanoparticles which are detectable after irradiation source and can be coupled to affinity molecules.	2000	DE10106643-A1; AU200158358-A; EP1282824-A2; JP2003532898-W; US2004014060-A1
	Device for detecting variations in properties of bonds in single molecules, e.g. determining the redox potential of biomolecules, has nanoelectrodes with gap between and nano gaps between these through which electrons can tunnel.	2000	DE10036072-A1
	Filter construction has a passage opening for fluids, covered by two intersecting unidimensional and intersecting nano-structures at the carrier, composed of nano wires and/or nano tubes.	2001	DE10135504-A1
	Functional element, useful e.g. for analyte detection and controlling cell growth, comprises nanoparticles immobilized on a surface and having specific-binding properties.	2001	DE10164309-A1; AU2002358799-A1; EP1461619-A2
	Hollow fibers, especially nanotubes or microtubes, used e.g. as a solar cell element have specified outer diameter which varies in the longitudinal direction.	2001	DE10240488-A1; AU2002342635-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Alemanha	Identifying T cell epitopes in protein antigens, useful e.g. for preparing vaccines and for isolating specific T cells, uses nanoparticles as carriers for a receptor in a competitive binding assay.	2003	DE10310261-A1
	Method for topographical analysis of molecular structures, e.g. multi-enzyme complexes using optical microscope, comprises arranging molecular structures in specific pattern with calibrating materials on reactive carrier.	2000	DE10052823-A1
	Optoelectronic analysis system, e.g. for point-of-care testing, has a light source and layer with functionalized surface combined in monolithic silicon block.	2001	DE10130568-C2
	Process for specific directed manipulation of small amounts of materials on solid body surfaces comprises producing an impulse along the solid body surface, and causing the impulse.	2000	US2001055529-A1; DE10055318-A1; AU200177499-A; EP1286774-A1; JP2003535349-W
	Resonance energy transfer assay system, useful particularly for quantifying nucleic acid, uses, as at least one component, a luminescent inorganic doped nanoparticle.	2001	DE10153829-A1; EP1444517-A2; AU2002351820-A1
	Stable, biocompatible magnetic dispersions of cyclodextrin-encapsulated magnetic core particles containing reactive and optionally bioactive groups, especially useful as drug carrier medium.	2001	DE10154016-B4; EP1439860-A1; AU2002337175-A1
	Ultrastructure analysis of nano-structures, comprises forming grid on carrier with reactive features formed by nano-lithography to give set binding sites and specific orientations for analysis by photon or particle beams.	2000	DE10059349-A1
	Use of transition metal cluster compounds capable of interacting with DNA to prevent or treat human or animal diseases, especially tumors.	2002	DE10235602-A1; AU2003258553-A1
Japão	DNA nanocages obtained by its self-organization, useful in developing functional materials e.g. DNA nanotubes and molecular carriers e.g., for drug delivery.	2002	JP2003259869-A; AU2003213407-A1; EP1479766-A1
	Electrical connection structure production, involves providing carbon nanotube as electrode and contacting electrode with biopolymer.	2001	US2002132500-A1; CN1375891-A; JP2002273700-A
	Expand-fixing DNA, by adding solution containing DNA on mica substrate coated with silane compound, adhering DNA terminal on surface of silane coated substrate, orienting and expanding DNA by flow of solution.	2002	JP2004125601-A
	Film used in analysis of protein crystal structure by electron microscopy, and in manufacturing float gates and magnetic disks contains micrograins of proteins aligned regularly at high density.	2001	EP1431244-A4; US2004142164-A1; AU2002343868-A1
	Manufacture of nanoparticles by forming nanoparticles comprising compound of metal ions in cavity part of protein, in solution containing protein having internal cavity part, metal ions, carbonate ions and/or bicarbonate ions.	2003	AU2003264452-A1; US2004197884-A1
	Manufacturing carbon cylindrical structures comprises implanting metal ions to the surface of the substrate, and using the metal ions as catalysts to grow the carbon cylindrical structures.	2002	US2003124717-A1; JP2003277029-A
	Member for processing biomolecule such as protein or peptide, comprises probe immobilized with enzyme capable of degrading substrate molecule immobilized on base material.	2003	JP2004261920-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Method of inserting bioactive substance in cell, involves making bioactive substance adhere to surroundings of taper shaped needle with specific diameter, and inserting needle into cell.	2003	WO2004092369-A1
	Micro reactor for use in chemical industry, has nickel complex supplied to surface of micro channel in substrate for detachedly bonding enzyme molecule on micro channel surface.	2003	JP2004267097-A
	Photo-immobilization method used in e.g. biotechnology field, involves irradiating microparticles e.g. microorganisms having specific size placed on photo-immobilization material, so as to stop mobility of microorganisms.	2003	JP2004251801-A
	Physical operation of long-chain-like polymer e.g., DNA by gathering microparticle, useful for studying function of protein.	2001	JP2003200400-A
	Production of labeled nucleic acids or proteins by bonding to large scale integrated circuit (LSI) for distinguishing and identifying them to enable collection of their respective data e.g. in genome analysis.	2002	JP2004150888-A; AU2002354456-A1; EP1473566-A1
	Reaction measurement method for reaction using semiconductor nanoparticles, involves dropping semiconductor nanoparticle solution on substrate, optically processing dried nanoparticles, and measuring reaction basing on optical data.	2002	US2003186216-A1; JP2003279491-A
	Reagent for detecting a biopolymer, e.g. sample protein or sample deoxyribonucleic acid, comprises a semiconductor nanoparticle on which a functional group having positive or negative charge is exposed.	2002	EP1333280-A1; JP2003227834-A; US2003148361-A1
	Separating apparatus comprises sample passages and sample separating regions formed by recesses inside passages.	2002	JP2004045358-A; EP1413346-A1; US2004108208-A1; CN1494453-A; KR2004032884-A
	Stimulus-responsive DNA organization of highly compatible functional material undergoing reversible formation/dissociation of supercoil or rotation in response to external stimulus, useful as e.g. artificial muscles.	2002	JP2003250546-A
EUA	Composition used for detecting or determining structure, composition, conformation or localization of biological groups comprises semiconductor nanocrystal core associated with binding pair member.	1999	AU9963923-A; US2001040232-A1; JP2003524147-W; DE69919368-E
	Fabricating micro or nano scale devices, e.g. optical storage media - by exploiting self-assembling, hybridising, properties of nucleic acid with components formed on surface then released and transported to second surface.	1996	EP943158-A2; BR9713995-A; KR2000057427-A; JP2001506931-W; CN1287689-A; US2004115696-A1; AU200227546-A
	Fabrication of microscale and nanoscale devices for data storage systems comprises contacting a target electrode, a fluid medium and component device, allowing force from the target to the component and attachment.	1999	AU200114662-A; EP1230340-A1; KR2003014345-A; US2003146095-A1; JP2004500247-W
	Microfluidic network for forming complex patterns on substrates, has non-parallel interconnected, primary and secondary channels in primary flow path non-fluidically connected to secondary flow path.	2000	AU200164960-A; EP1284821-A2; US2003156992-A1; JP2003534538-W
EUA	Molecular motor includes first and second two-dimensional arrays of respective first and second motor proteins, in which a second motor protein interacts with the first to move directionally relative to the first array.	1999	AU200066166-A; EP1204680-A1; US2002083710-A1;

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Nanomachine useful as a biosensor to detect single molecular events, e.g., the binding of a single nerve gas molecule, or other important analyte, comprises a bioelastomer with repeated peptide monomeric units forming a series of beta-turns.	2000	AU200171400-A; US2002068304-A1; EP1297010-A2; JP2004501784-W
	Nanotube sensor useful for detection of biological molecule comprises hydrophilic polymer coated nanotube and a molecular receptor compound bound to the polymer.	2003	AU2003291385-A1
	New nanoscale engineered systems, useful for producing e.g. biosensors, medical devices, prostheses, diagnostic and drug delivery systems.	1999	AU9964252-A; EP1144601-A2
	Producing templates and components for microfabrication.	1998	AU9915731-A; EP1039972-A1; JP2002508259-W; US6450189-B1
	Self-assembled semiconducting nano-device is based on a structure comprising DNA molecule bonded to nanoparticle and extending between two electrodes.	1998	EP987653-A2; KR2000028630-A; TW457736-A; JP2003037313-A; US2004046002-A1
	Sensor for monitoring molecular interaction events by monitoring the effect of interaction event on nanoscale objects to which one or more molecules e.g., enzymes involved in event are bound.	2001	AU200211587-A; EP1330536-A1; KR2003059187-A; CN1468316-A; JP2004511762-W
	Structure for use in semiconductor chips, comprises substrate, three electrodes, and polymer string.	1998	US6218175-B1; KR2000056979-A
	Substrate nanopatterning method for biological applications, involves exerting strain of multilayer article such that cracks are generated in brittle layer without damaging coating layer.	2002	US2004063199-A1; AU2003249368-A1

Os 13 depositantes com frequência igual ou maior que 2 e suas respectivas patentes são listados nas tabelas abaixo:

Tabela dos top **depositantes** em Nanobiotecnologia:

Depositante ou (Corporação)	Nº de Patentes
DOKURITSU GYOSEI HOJIN SHOKUHIN SOGO KEN	4
CHIU D T	2
COMMISSARIAT ENERGIE ATOMIQUE & BIOMERIEUX SA	2
BAYER AG	2
FORD W E	2
FRAUNHOFER GES FOERDERUNG ANGEWANDTEN	2
HITACHI SOFTWARE	2
INT BUSINESS MACHINES CORP	2
MATSUSHITA ELECTRIC	2
INST PHYSIKALISCHE HOCHTECHNOLOGIE	2
UNIV HEIDELBERG	2
W3HM SA	2

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DOKURITSU GYOSEI HOJIN SHOKUHIN SOGO KEN; SEIBUTSUKEI TOKUTEI SANGYO GIJUTSU	Expand-fixing DNA, by adding solution containing DNA on mica substrate coated with silane compound, adhering DNA terminal on surface of silane coated substrate, orienting and expanding DNA by flow of solution.	2002	JP2004125601-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO; NAT INST ADVANCED IND SCI & TECHNOLOGY	Member for processing biomolecule such as protein or peptide, comprises probe immobilized with enzyme capable of degrading substrate molecule immobilized on base material.	2003	JP2004261920-A
DOKURITSU GYOSEI HOJIN SANGYO GIJUTSU SO	Micro reactor for use in chemical industry, has nickel complex supplied to surface of micro channel in substrate for detachedly bonding enzyme molecule on micro channel surface.	2003	JP2004267097-A
DOKURITSU GYOSEI HOJIN NOGYO SEIBUTSU SH; NAT INST AGROBIOLOGICAL SCI; OONO K	Production of labeled nucleic acids or proteins by bonding to large scale integrated circuit (LSI) for distinguishing and identifying them to enable collection of their respective data e.g. in genome analysis.	2002	JP2004150888-A; AU2002354456-A1; EP1473566-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
CHIU D T; CELLECTRICON AB; NANOXIS AB; ORWAR O; KARLSSON A; KARLSSON M; KARLSSON R	Production of microscopic network of containers and nanotubes for use in microelectronic system, involves partitioning mother container into daughter containers, and repeating partitioning of the containers.	2000	AU200192492-A; EP1322546-A1; US2004038019-A1; JP2004509778-W
CHIU D T; HARVARD COLLEGE; ANDERSON J R; JACKMAN R J; CHERNIAVSKAYA O; MCDONALD J C; WHITESIDES G M	Microfluidic network for forming complex patterns on substrates, has non-parallel interconnected, primary and secondary channels in primary flow path non-fluidically connected to secondary flow path.	2000	AU200164960-A; EP1284821-A2; US2003156992-A1; JP2003534538-W
COMMISSARIAT ENERGIE ATOMIQUE; BIOMERIEUX SA	Biochip analysis of biological and chemical samples is by fluorescence molecular identification at high speed.	1998	FR2784189-A1; AU9958706-A; EP1119769-A1; JP2002526773-W; US6537801-B1
	Biochip analysis of biological and chemical samples by fluorescence molecular identification at high speed.	1998	FR2784188-A1
BAYER AG	Detection probes used in bioassays e.g. for determining nucleic acids, based on luminescent doped inorganic nanoparticles which are detectable after irradiation source and can be coupled to affinity molecules.	2000	DE10106643-A1; AU200158358-A; EP1282824-A2; JP2003532898-W; US2004014060-A1
	Resonance energy transfer assay system, useful particularly for quantifying nucleic acid, uses, as at least one component, a luminescent inorganic doped nanoparticle.	2001	DE10153829-A1; EP1444517-A2; AU2002351820-A1
FORD W E; SONY INT EURO GMBH; WESSELS J; HARNACK O	Immobilizing nucleic acid molecules on a substrate by treating the substrate with atomic oxygen plasma produces immobilize nucleic acids useful for nanotechnology such as nanoelectronics including wires, biosensors and chips.	2000	US2002091245-A1; JP2002218976-A; EP1207207-B1; US6811980-B2
FORD W E	Metallization of nucleic acids, useful for producing nanowires, comprises binding tris(hydroxymethyl)phosphine-Au particles to nucleic acids and treating in an electroless plating solution.	2001	US2003027195-A1; CN1402363-A; JP2003133541-A; KR2003011721-A; EP1283526-B1; DE60106425-E
FRAUNHOFER GES FOERDERUNG ANGEWANDTEN	Identifying T cell epitopes in protein antigens, useful e.g. for preparing vaccines and for isolating specific T cells, uses nanoparticles as carriers for a receptor in a competitive binding assay.	2003	DE10310261-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Functional element, useful e.g. for analyte detection and controlling cell growth, comprises nanoparticles immobilized on a surface and having specific-binding properties.	2001	DE10164309-A1; AU2002358799-A1; EP1461619-A2
HITACHI SOFTWARE ENG CO LTD	Reaction measurement method for reaction using semiconductor nanoparticles, involves dropping semiconductor nanoparticle solution on substrate, optically processing dried nanoparticles, and measuring reaction basing on optical data.	2002	US2003186216-A1; JP2003279491-A
	Reagent for detecting a biopolymer, e.g. sample protein or sample deoxyribonucleic acid, comprises a semiconductor nanoparticle on which a functional group having positive or negative charge is exposed.	2002	EP1333280-A1; JP2003227834-A; US2003148361-A1
INT BUSINESS MACHINES CORP	Structure for use in semiconductor chips, comprises substrate, three electrodes, and polymer string.	1998	US6218175-B1; KR2000056979-A
INT BUSINESS MACHINES CORP; IBM CORP	Self-assembled semiconducting nano-device is based on a structure comprising DNA molecule bonded to nanoparticle and extending between two electrodes.	1998	EP987653-A2; KR2000028630-A; TW457736-A; US2002098500-A1; JP2003037313-A; US2004046002-A1
MATSUSHITA ELECTRIC IND CO LTD	Manufacture of nanoparticles by forming nanoparticles comprising compound of metal ions in cavity part of protein, in solution containing protein having internal cavity part, metal ions, carbonate ions and/or bicarbonate ions.	2003	AU2003264452-A1; US2004197884-A1
	Film used in analysis of protein crystal structure by electron microscopy, and in manufacturing float gates and magnetic disks contains micrograins of proteins aligned regularly at high density.	2001	EP1431244-A4; US2004142164-A1; AU2002343868-A1
INST PHYSIKALISCHE HOCHTECHNOLOGIE EV	Device for detecting variations in properties of bonds in single molecules, e.g. determining the redox potential of biomolecules, has nanoelectrodes with gap between and nano gaps between these through which electrons can tunnel.	2000	DE10036072-A1
INST PHYSIKALISCHE HOCHTECHNOLOGIE EV; FRITZSCHE W	Affinity sensor for chemical and biological materials, useful e.g. in clinical diagnosis, based on binding of microparticles to specific binding regions of a support and optical detection.	1999	DE19943704-C1; EP1216310-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
UNIV HEIDELBERG RUPRECHT-KARLS	Ultrastructure analysis of nano-structures, comprises forming grid on carrier with reactive features formed by nano-lithography to give set binding sites and specific orientations for analysis by photon or particle beams.	2000	DE10059349-A1
	Method for topographical analysis of molecular structures, e.g. multi-enzyme complexes using optical microscope, comprises arranging molecular structures in specific pattern with calibrating materials on reactive carrier.	2000	DE10052823-A1
W3HM SA	Apparatus for applying micro- or nanoparticles of magnetically interacting material, loaded with e.g. nucleic acids to a carrier, comprises a dispensing device with pipettes arranged in the same pattern as recesses for the particles.	2000	DE10027608-C2
	Applying micro- or nanoparticles of magnetically interacting material, loaded with e.g. nucleic acids to a magnetic carrier for analysis, comprises applying an external magnetic field to accelerate particles into recesses.	2000	DE10027607-C2

14.7 Proteômica

No termo “proteômica”, foram identificadas 92 patentes, com liderança de depósito dos Estados Unidos e Japão (70 e 9 patentes, respectivamente):

Tabela dos top **países depositantes** em Proteômica:

País Depositante	Nº de Patentes
EUA	70
Japão	9

As patentes referentes a estes dois países são mostradas abaixo:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Array assay device used in genomics and proteomics, has compression spring which forces bottom surface of substrate receiving element to move upwards so as to fix position of receiving element relative to substrate.	2002	US2003235520-A1; EP1374989-A2
	Array coverslip device useful in array based applications such as genomic and proteomic applications comprises array coverslip and rectangular rigid wall structure on planar surface of coverslip.	2002	US2003231987-A1
	Array device for proteomics applications including assessing patterns of protein expression and modification in cells, includes protein immobilization region comprising hydrophobic and hydrophilic monolayers.	2000	US6365418-B1
	Array device useful in drug development, proteomics and clinical diagnosis, has several different proteins, such as different members of single protein family, immobilized on organic thin films on a substrate surface.	1999	US6475808-B1
	Array of protein-capture agents useful for proteomics and assaying differential gene expression at protein level, has a substrate and array of immobilization regions having many protein-capture agents on the surface.	1999	US6329209-B1
	Assay for detecting post-translational modification of a target protein by a post-translational modifier polypeptide molecule, useful in functional genomics and proteomics, comprises using a reporter protein.	2002	US2004067497-A1
	Assessment system for genomic and proteomic animal disease has database connected to analysis processor to store biological information and baseline expression information.	2000	AU200070775-A
	Assessment system for genomic and proteomic human disease has database connected to analysis processor to store biological information and baseline expression information.	2000	AU200069397-A; EP1410299-A2
	Bead trapping device for trapping microscopic beads with modified surfaces used in biotechnology areas, e.g. proteomics, has substrates, posts patterned to form cavities, and loading mechanism for loading beads into cavities.	2002	US2003091475-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Biosensor e.g. for proteomics applications, produces resonant grating effect on reflection radiation spectrum when specific substances are immobilized on it and illuminated.	2001	EP1337847-A1; AU2002249786-A1; US2004151626-A1; JP2004529324-W
	Chip used in pharmaceutical applications, e.g. proteomic studies for target discovery comprises base including non-sample surface, and structure(s) comprising pillar and sample surface.	2000	US2001036674-A1; AU200139865-A; EP1261689-A1; KR2002089357-A; JP2003524193-W; CN1444646-A; US2004142491-A1
	Clustering proteomics and genomic data apparatus for grouping proteomics and genomic data used in life sciences, comprises computer system with processor, memory, input, and output.	2002	US2003171873-A1
	Composition comprising a substrate with a functionalized polymeric surface coating comprising a polyfunctionalized polyurea or polyurethane, useful in e.g. proteomics, genomics, combinatorial chemistry or chromatography.	2003	US2004035775-A1
	Compression device for genomics and proteomics applications, has compression device which applies compression force with respect to array substrates which are spaced apart from each other by separator.	2002	US2003235906-A1; EP1374995-A1
	Computer program product for plotting proteomic and genomic data, comprises system having mechanism to generate graphical representation of partition size, adjust the view of other partition schemes, and output graphical representation.	2002	US2003208322-A1
	Data analyzer for proteomic pattern classifier, identifies and removes common characteristics of indexed data based on ensemble statistics of indexed data, so that non-discriminatory indices in indexed data, is removed.	2003	AU2003301143-A1
	Database comparison method for genomic and proteomic analysis, involves alternately sending query and subject data elements along with task definitions from master CPU for executing tasks.	2001	US2001053957-A1; AU200166948-A
	Depletion of proteins from samples e.g. blood plasma and urine to prepare sample for proteomic analysis involves contacting the sample with chromatographic medium that can remove albumin, immunoglobulin G and other abundant protein.	2003	WO2004072647-A1
	Deriving sequence annotations for sequences in a genomics/proteomics database, comprises modeling a 3-dimensional structure of a protein, modeling interaction between a ligand and the modeled structure and deriving the annotation.	2001	US2002072887-A1
	Detecting nucleic acid-binding proteins comprises forming nucleic acid-protein complexes and degrading unbound nucleic acid molecules, useful for molecular biology and genetics, biophysical protein chemistry, genomics and proteomics.	2002	US2004086918-A1; AU2003256814-A1
	Detection of an analyte in a sample, useful in proteomic applications involves use of an array of binding agents each comprising a specific epitope binding domain of an antibody.	2000	AU200192959-A; US2003036095-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Determination of optimal focus distance of biopolymer array scanner for use in genomics and proteomics applications, by scanning reference substrate, assembling data, and using array substrate thickness dependent focus-finding routine.	2002	US2004021091-A1
	Determining proteomic basis e.g. basis for diagnosing existence of or predicting development and/or progression of abnormal physiological conditions based upon the presence of proteomic materials.	2001	US2002160420-A1; EP1384082-A2; AU2002308315-A1
	Determining significance of alignment score obtained from alignment of sequences useful in identifying genomic and proteomic sequences involves determining threshold p-value to be compared with p-value estimates of alignment score.	2003	US2004167720-A1
	Determining state of maternal or fetal condition, by comparing proteomic profile of biological fluid from subject with proteomic profile of reference proteomic profile comprising unique expression signature characteristic of condition.	2003	US2004197930-A1
	Device for drug development, functional proteomics, clinical diagnostics and parallel screening of families of related proteins, comprises several noncontiguous reactive sites for analyzing components of a fluid sample.	2002	US2002110932-A1
	Electroblotting methods and apparatus for identifying polypeptides separated by gel electrophoresis on the same gel, useful in proteomics.	1998	CA2244947-A1; US6632339-B1
	Encoded, beaded or granulated polymer matrix, useful for combinatorial solid phase synthesis, assaying, functional proteomics, or diagnostics, comprises spatially immobilized particles or vacuoles, each being individually detectable.	2003	AU2003266932-A1
	Establishing genomic action map and/or proteomic interaction map in the presence of simulated redox state perturbation and redox state, respectively, for comparing pathophysiological and physiological processes.	2001	US2003073088-A1; AU2002347796-A1
	Fluid micro-dose pumping device for genomics and proteomics analysis systems, has domes overlapping laterally so that fluid is pumped between chambers as diaphragms are bulged in serial fashion.	2002	US2003170130-A1
	Genomic and proteomic agricultural disease assessment system comprises analysis device, analysis device reader, network, analysis processor, storage, and instructions for comparison of biological information.	2000	AU200078261-A
	Identification of polypeptide useful in proteomics, involves derivatizating N-terminus or N-termini of polypeptide with acidic reagent containing sulfonyl or sulfonic acid moiety coupled to activated ester moiety.	2001	EP1434999-A2; AU2002311995-A1; US2004171070-A1
	Identifying a potential therapeutic option for treating a cancer by correlating a proteomic profile of the tumor with molecular pathways to identify potential drug targets is useful to provide treatment customized to the patient.	2002	US2003124130-A1; AU2002360768-A1
	Identifying a tumor target, useful for treating cancer, e.g. prostate cancer or leukemia, and preventing or inhibiting tumor metastasis, comprises examining a lipid raft, by lipid raft proteomics or lipid raft immunization.	2001	US2003096285-A1; AU2002340169-A1
	Identifying cell surface proteins utilizing surface, intracellular proteins and a non-membrane-permeable label, useful for arraying and analyzing proteins, and characterizing surface membrane proteins in the field of proteomics.	2002	US2003013138-A1; EP1404707-A1; AU2002310146-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Identifying coding sequence in genomic databases for conducting proteomics business, by using polypeptide sequence information obtained from peptide sequencing projects, especially those using mass spectrometers.	2001	US2003175722-A1; AU2002256173-A1; EP1419518-A2
	Identifying structure of dimethyl arginine for proteomics business by obtaining neutral loss spectra of peptide containing dimethylarginine residues by mass spectrometry.	2001	US2003082819-A1; EP1390125-A2; US6747273-B2; AU2002305624-A1
	Isotope coding agent useful in proteomics comprises functional group and isotopic linker containing at least three heavy non-deuterium isotopes.	2001	US2003186326-A1; EP1432992-A2; AU2002341862-A1
	Magnetic in-situ dilution, for e.g. studying proteomics involves magnetically drawing, and selective releasing of articles and chemical/biological agents immobilized to a location.	2001	US2002086443-A1
	Making translucent matrix arrays useful in genomic and proteomic work and diagnostic formats, involves coating substrate with translucent layer of nitrocellulose, rayon or cellophane and attaching first probes to translucent layer.	2004	US2004166494-A1
	Microanalysis chip used in pharmaceutical industry for, e.g., proteomic studies, comprises body defining transfer-separation channel including channel bottom with bottom opening.	2000	AU200143269-A; EP1272768-A2; US2004053403-A1; US6730516-B2
	Minicell-based bioremediation producing achromosomal and anucleate eukaryotic cells, useful for functional proteomics, and in treating and diagnosing viral, bacterial and parasitic infections, cancer and autoimmune diseases.	2002	US2003219888-A1
	Modular bioinformatics platform for processing biological data, comprises a target identification module for receiving genomic search results and target validation module for receiving proteomic search results.	2003	US2003177143-A1
	Multi-dimensional proteomic analysis comprises separating protein or peptide sample on substrate by cationic electrophoresis in first direction and by second electrophoresis in second direction.	2002	US2002153252-A1
	New arrays for analyzing components of a fluid sample, useful for drug development, functional proteomics, clinical diagnostics and biosensors.	1998	AU9951025-A; EP1097380-A1; JP2002520618-W
	New arrays for assaying proteins, used for analysis of cell expression products, evaluating disease conditions, proteomics, drug screening, diagnostics and measurement of gene activity.	1998	EP1097377-A2; US2002106702-A1; JP2002520620-W; AU2004201126-A1
	New arrays of protein-capture agents, useful for various proteomics applications, for diagnostic applications, and in evaluating status of a disease condition, including tumors and cancers.	2002	US2003003599-A1
	New devices for analyzing components of a fluid sample, useful for drug development, functional proteomics, clinical diagnostics and biosensors.	1998	EP1097379-A2; US2002115225-A1; JP2002520621-W; AU2003257898-A1
	New trisubstituted triazine library, useful as universal small molecule chips for functional proteomics and sensors.	2001	US2003166002-A1; AU2002340125-A1
	Novel trifunctional synthetic reagents for labeling peptides at specific amino acid residue and selectively enriching only those peptides containing labeled amino acid, useful for proteomic analysis.	2001	US2003087329-A1; AU2002240148-A1
	Organization of genomic and proteomic information in organized database with data nodes and links by, gathering data from independent databases, determining set of data node types and link types, organizing, and storing data.	2002	US2003220928-A1; AU2003225506-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Patterned composite membrane for use in proteomic and genomic characterization, has planar support onto which is provided discrete depositions of porous material.	2001	EP1421209-A2; AU2002316608-A1
	Pharmaceutical composition comprising minicells, useful for preventing, treating or diagnosing cancer, asthma or HIV, or as reagents in drug discovery and functional proteomics, as research tools or in compound screening.	2002	US2003207833-A1
	Preparation of photoreactive polymer with immobilized molecules for proteomics, involves reacting polymer having nucleophilic group with photolinker, adding molecule dissolved in buffer and exposing.	2003	US2004192842-A1
	Preparing genomics/proteomics cancer databases, by collecting tissue sample having proliferating cells, mechanically dividing sample into cohesive multicellular particulates, and growing and analyzing resulting cells.	2001	AU200224435-A; US2004086888-A1
	Process for sample preparation for proteomic applications, recovery, purification and identification of biomarkers such as peptides from biological and bodily fluids.	2003	US2003199001-A1; AU2003239152-A1
	Producing antibodies to an antigen in an avian species useful for determining the proteomic profile of DNA sequences in a biological sample for the discovery of new drug targets and drugs.	2000	AU200159631-A
	Proteome analysis useful in proteomic study of membrane proteins involves grouping the proteomes into membrane proteins and compounds and analyzing the membrane proteins and the compounds.	2002	US2003129666-A1; EP1352249-A1; KR2003069205-A; AU2002219562-A1; JP2004518118-W; CN1496481-A
	Proteomic screening using a modified yeast two-hybrid screening methodology to assess NO-dependent regulation of protein-protein interactions in a cellular context.	2003	US2004072257-A1
	Providing biological experimental services, e.g. genomics or proteomics, with data transmission between client and provider over the Internet.	2000	AU200115748-A; US2004142371-A1
	Reducing the complexity of a proteomic sample prior to protein identification, comprises protecting the N- or C-termini, cleaving the proteins, and purifying the protected peptides so that there is one terminal peptide per sample protein.	2003	EP1437596-A1; JP2004219418-A; US2004137552-A1
	Screening bioactivity of candidate compound toward group of related target proteins in proteomic mixture involves using probe having specificity to target proteins and ligand.	2001	US2002040275-A1
	Screening for bioactivity of candidate compound toward related target proteins in proteomic mixture of proteins from cell, uses probe(s) comprising reactive functionality group specific for proteins, ligand and probe.	2002	US2002182652-A1
	Screening for the bioactivity of a compound toward a group of related target proteins in a proteomic mixture using probes comprising a reactive functionality specific for the group of target proteins and a ligand.	2000	US2002045194-A1
	Search for mass spectral proteomics data match in reference database comprises forming query using client module, sending input data to remote servers, and sending array of database matches back to client.	2002	US2003037045-A1; CA2386862-A1
	Solid support comprising minicell, useful as therapeutics and/or diagnostics, reagents in drug discovery and functional proteomics.	2002	US2003199005-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Solubilization and stabilization of a target protein in a solution, useful for e.g. proteomic studies involves preparation of a fusion protein of the target protein, and a small solubility and stability enhancing tag.	2002	US2003092885-A1
	System for providing genomic and proteomic research products and services comprises genomic and proteomic research products and services databases accessible by a subscriber and a provider of the products and services.	2003	US2004204953-A1
	System useful for conducting multiplexed cellular experiment, e.g., cell phenotyping, proteomics and molecular screening, comprises a set of microcarriers with detectably distinct codes.	2001	WO2004090168-A1
	Transilluminator for proteomics, includes controller which selects one light source array comprising of LEDs, to output light within specified range of wavelengths.	2003	US2003230728-A1
Japão	Highly stable artificial antibody libraries with super-repertory and little contamination from unexpressible ones, useful as tool in proteomics and e.g. for diagnosis and treating various diseases.	2001	AU2002366039-A1; EP1457559-A1
	Ion source for mass spectrometric apparatus used for proteomics, which analyzes proteins, comprises capillary having first end having reduced outside and inside diameters and second end where liquid sample is introduced.	2002	US2003209666-A1; JP2003331776-A
	Microchip used for e.g. proteomics analysis, receives light which passed through sample along longitudinal axis direction of flow path for detection, through optical fiber connected to connection portion.	2002	JP2004077305-A
	Microchip, e.g. for mass spectrometry system used in proteomics research, has hydrophobic area at inlet of liquid sample recovery passage connected to sample flow passage, which regulates flow amount of processed sample to recovery passage.	2002	WO2004050220-A1
	Producing a modified polypeptide for proteomics, comprises cross-coupling a polypeptide having an unnatural amino acid carrying an unsaturated carbon-carbon bond or a functional group, with a molecule using a metal catalyst.	2003	WO2004087913-A1
	Purification of target protein-interacting protein complexes by micro or nanofluidics with two-stage trap, applicable in protein analysis particularly proteomics for studying proteins in the body and cell extracts.	2002	AU2003268651-A1
	Regulating non-specific absorption of molecules onto solid supports by reducing hydrophobicity, e.g. using new or known compounds or polymers, useful in analysis or separation processes for pharmaceutical, genomic or proteomic research.	2002	AU2003254782-A1
	Screening an antibody using 2-D electrophoresis on plural proteins in samples for separating individual protein spots to react with an antibody library useful in proteomics and other biological sciences.	2000	JP2002162398-A; EP1336848-A1; US2004082004-A1
	Structure comprising a vorticosely with immobilized biological material useful for analysis of expression, mutation in polymorphism of a gene or proteomic analysis.	2001	EP1271149-A2; JP2003014746-A; US2004086950-A1

Tabela dos top **depositantes** em Proteômica:

Depositante ou (Corporação)	Nº de Patentes
ZYOMYX INC	8
AGILENT TECHNOLOGIES INC	3
KLEPPER R	3
REALTIMEHEALTH.COM INC	3
WAGNER P	3

Dos depositantes top, o destaque é a empresa Zyomyx Inc, com 8 patentes, conforme a tabela abaixo. Destaca-se que em apenas uma destas patentes há parcerias.

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ZYOMYX INC	Array device for proteomics applications including assessing patterns of protein expression and modification in cells, includes protein immobilization region comprising hydrophobic and hydrophilic monolayers.	2000	US6365418-B1
	Microanalysis chip used in pharmaceutical industry for, e.g., proteomic studies, comprises body defining transfer-separation channel including channel bottom with bottom opening.	2000	AU200143269-A; EP1272768-A2; US2004053403-A1
	Array device useful in drug development, proteomics and clinical diagnosis, has several different proteins, such as different members of single protein family, immobilized on organic thin films on a substrate surface.	1999	US6475808-B1
	Array of protein-capture agents useful for proteomics and assaying differential gene expression at protein level, has a substrate and array of immobilization regions having many protein-capture agents on the surface.	1999	US6329209-B1
	New arrays for analyzing components of a fluid sample, useful for drug development, functional proteomics, clinical diagnostics and biosensors.	1998	AU9951025-A; EP1097380-A1; JP2002520618-W;
	New arrays for assaying proteins, used for analysis of cell expression products, evaluating disease conditions, proteomics, drug screening, diagnostics and measurement of gene activity.	1998	EP1097377-A2; US2002106702-A1; JP2002520620-W; AU2004201126-A1
	New devices for analyzing components of a fluid sample, useful for drug development, functional proteomics, clinical diagnostics and biosensors.	1998	EP1097379-A2; US2002115225-A1; JP2002520621-W; AU2003257898-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
ZYOMYX INC; JEDRZEJEWSKI P; NOCK S; WAGNER P; INDERMUHLE P; ZAUGG F G; INDERMUHLE P F	Chip used in pharmaceutical applications, e.g. proteomic studies for target discovery comprises base including non-sample surface, and structure(s) comprising pillar and sample surface.	2000	AU200139865-A; EP1261689-A1; KR2002089357-A; JP2003524193-W; CN1444646-A; US2004142491-A1
AGILENT TECHNOLOGIES INC; SHEA L R; SCHEMBRI C T; SUMMERS D G; HILSON R O	Array assay device used in genomics and proteomics, has compression spring which forces bottom surface of substrate receiving element to move upwards so as to fix position of receiving element relative to substrate.	2002	US2003235520-A1; EP1374989-A2
AGILENT TECHNOLOGIES INC; SHEA L R; SUMMERS D G	Compression device for genomics and proteomics applications, has compression device which applies compression force with respect to array substrates which are spaced apart from each other by separator.	2002	US2003235906-A1; EP1374995-A1
AGILENT TECHNOLOGIES INC	Reducing the complexity of a proteomic sample prior to protein identification, comprises protecting the N- or C-termini, cleaving the proteins, and purifying the protected peptides so that there is one terminal peptide per sample protein.	2003	EP1437596-A1; JP2004219418-A; US2004137552-A1
KLEPPER R; SEGALL A M	Minicell-based bioremediation producing achromosomal and anucleate eukaryotic cells, useful for functional proteomics, and in treating and diagnosing viral, bacterial and parasitic infections, cancer and autoimmune diseases.	2002	US2003219888-A1
KLEPPER R; BERKLEY N; SABBADINI R A	Pharmaceutical composition comprising minicells, useful for preventing, treating or diagnosing cancer, asthma or HIV, or as reagents in drug discovery and functional proteomics, as research tools or in compound screening.	2002	US2003207833-A1
KLEPPER R; SABBADINI R	Solid support comprising minicell, useful as therapeutics and/or diagnostics, reagents in drug discovery and functional proteomics.	2002	US2003199005-A1
REALTIMEHEALTH.COM INC	Assessment system for genomic and proteomic animal disease has database connected to analysis processor to store biological information and baseline expression information.	2000	AU200070775-A
REALTIMEHEALTH.COM INC; PLUVITA CORP	Assessment system for genomic and proteomic human disease has database connected to analysis processor to store biological information and baseline expression information.	2000	AU200069397-A; EP1410299-A2
	Genomic and proteomic agricultural disease assessment system comprises analysis device, analysis device reader, network, analysis processor, storage, and instructions for comparison of biological information.	2000	AU200078261-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
WAGNER P; ZYOMYX INC; JEDRZEJEWSKI P; NOCK S; INDERMUHLE P; ZAUGG F G; INDERMUHLE P F	Chip used in pharmaceutical applications, e.g. proteomic studies for target discovery comprises base including non-sample surface, and structure(s) comprising pillar and sample surface.	2000	AU200139865-A; EP1261689-A1; KR2002089357-A; JP2003524193-W; CN1444646-A; US2004142491-A1
WAGNER P; AULT-RICHE D; NOCK S; ITIN C	Device for drug development, functional proteomics, clinical diagnostics and parallel screening of families of related proteins, comprises several noncontiguous reactive sites for analyzing components of a fluid sample.	2002	US2002110932-A1
WAGNER P	New arrays of protein-capture agents, useful for various proteomics applications, for diagnostic applications, and in evaluating status of a disease condition, including tumors and cancers.	2002	US2003003599-A1

15 Tema: Segurança Biológica

Foram encontradas 18 patentes focadas para o tema “segurança biológica”, sendo que, com relação aos países depositantes, os Estados Unidos lideram com 11 patentes, seguidos pelo Japão, com 5 e China e França com 1 patente cada:

Tabela dos **países depositantes** em Segurança Biológica:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Adjuvant for use in vaccines or immunogenic compositions for antibody production.	1997	US5980912-A
	Composition useful as a parenteral drug comprises a bactericidal/permeability increasing protein or its biologically active fragment in combination with a poloxamer surfactant.	2000	US6255284-B1
	Contained sampling device for taking sterile samples of fluid such as biological samples from a fermenter or bio-reactor which prevents contamination of the biological samples.	1998	US5948998-A; AU9925056-A; EP1053300-A1; JP2002502598-W
	Data transfer system for law enforcement agency, comprises two input terminals facilitating communication between entities having computing system which accepts standardized data and transferring it between entities.	2001	US2003070076-A1
	Novel chimeric alphavirus particle, useful for generating an immune response in a mammal, has RNA derived from one or more alphaviruses, and structural proteins derived from two or more alphaviruses.	2001	US2003232324-A1; EP1399183-A2; AU2002303330-A1
	Specifically detecting antibody against a predetermined virus that is present in a biological sample by contacting the biological sample with the chimeric virus and determining the presence or amount of the remaining infectious virus.	2001	US6682883-B1; AU2002356509-A1
	Synthetic peptide used in protecting animals against foot and mouth disease virus infections comprises helper T-cell epitope and foot and mouth disease virus epitope conjugate.	1998	AU9948266-A; US6107021-A; EP1089759-A1; BR9912178-A; KR2001053042-A; JP2002518461-W; CN1354674-A
	Transgenic mammalian packaging cell line for producing lentiviral vectors, useful for expressing HIV-1 envelope protein.	1999	AU200052907-A; EP1181353-A1; US6613569-B1
	Use of avian adenovirus for producing recombinant proteins by mixing vector containing avian adenovirus DNA with purified adenovirus DNA, introducing DNA mixture into embryonated avian egg, and harvesting proteins.	1999	AU200075873-A; EP1232248-A1; CN1408021-A; JP2003530076-W
	Use of nucleic acid sequence encoding a polypeptide having nitric oxide synthase activity for reduction of portal hypertension.	2001	US2002006396-A1
	Vibrio cholerae live vaccines comprising CTX-phi rstR nucleic acid.	1997	AU9918016-A
Japão	Antifriction bearing for apparatus with high rotation speed e.g. for orthodontics.	1998	DE19848051-A1; JP11287250-A; US6164831-A; CH693540-A5; AT9900109-A;
	Pest control composition useful for the disinfection/preservation of pharmaceuticals and cosmetics.	1996	JP11130602-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Japão	Prepn. of poly-lactic acid for medical applications, films and fibres etc. - comprises melt polymerising lactide using catalyst and heat polymerising.	1994	JP8151436-A
	Prepn. of poly-lactic acid used for medical applications, films and fibres - comprises polymerising lactide and decreasing temp. during process.	1994	JP8151437-A
	Sample analyzer has main body box containing optical reader for reading the state of liquid sample poured in disc, collecting unit for collecting generated micro particles from sample at exhaust port of main body box.	2002	JP2003329689-A
China	Injectable solidifying on site cement with inorganic framework and application in micro traumatic treatment.	2003	CN1446591-A
França	Continuous treatment plant for food products in controlled atmosphere and temperature has sealed outer structure delimiting at least two technical equipment chambers.	2003	FR2853496-A1

O depositante líder, SHIMADZU CORP, do Japão, tem duas patentes. As 18 patentes por depositante são apresentadas a seguir:

Tabela dos **depositantes** em Segurança Biológica:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
SHIMADZU CORP	Prepn. of poly-lactic acid used for medical applications, films and fibres - comprises polymerising lactide and decreasing temp. during process.	1994	JP8151437-A
	Prepn. of poly-lactic acid for medical applications, films and fibres etc. - comprises melt polymerising	1994	JP8151436-A
ACAMBIS INC	Specifically detecting antibody against a predetermined virus that is present in a biological sample by contacting the biological sample with the chimeric virus and determining the presence or amount of the remaining infectious virus.	2001	US6682883-B1; AU2002356509-A1
ALBERTA RES COUNCIL	Contained sampling device for taking sterile samples of fluid such as biological samples from a fermenter or bio-reactor which prevents contamination of the biological samples.	1998	US5948998-A; AU9925056-A; EP1053300-A1; JP2002502598-W
CHEMOGEN INC; BLYDEN E R; GRABKO V I	Use of avian adenovirus for producing recombinant proteins by mixing vector containing avian adenovirus DNA with purified adenovirus DNA, introducing DNA mixture into embryonated avian egg, and harvesting proteins.	1999	AU200075873-A; EP1232248-A1; CN1408021-A; JP2003530076-W
CHIRON CORP; POLO J M; PERRI S; THUDIUM K	Novel chimeric alphavirus particle, useful for generating an immune response in a mammal, has RNA derived from one or more alphaviruses, and structural proteins derived from two or more alphaviruses.	2001	US2003232324-A1; EP1399183-A2; AU2002303330-A1
DESJONQUERES J	Continuous treatment plant for food products in controlled atmosphere and temperature has sealed outer structure delimiting at least two technical equipment chambers.	2003	FR2853496-A1
HARVARD COLLEGE; NEW ENGLAND MEDICAL CENT HOSPITALS INC	Vibrio cholerae live vaccines comprising CTX-phi rstR nucleic acid.	1997	AU9918016-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
MATSUSHITA DENKI SANGYO KK	Sample analyzer has main body box containing optical reader for reading the state of liquid sample poured in disc, collecting unit for collecting generated micro particles from sample at exhaust port of main body box.	2002	JP2003329689-A
MICHAEL K W	Data transfer system for law enforcement agency, comprises two input terminals facilitating communication between entities having computing system which accepts standardized data and transferring it between entities.	2001	US2003070076-A1
MORITA MFG CORP J; MORITA SEISAKUSHO KK; MATSUI A	Antifriction bearing for apparatus with high rotation speed e.g. for orthodontics.	1998	DE19848051-A1; JP11287250-A; US6164831-A; CH693540-A5; AT9900109-A
OFUTEKUSU KK	Pest control composition useful for the disinfection/preservation of pharmaceuticals and cosmetics.	1996	JP11130602-A
ROCKEY D C	Use of nucleic acid sequence encoding a polypeptide having nitric oxide synthase activity for reduction of portal hypertension.	2001	US2002006396-A1
UNITED BIOMEDICAL INC	Synthetic peptide used in protecting animals against foot and mouth disease virus infections comprises helper T-cell epitope and foot and mouth disease virus epitope conjugate.	1998	AU9948266-A; US6107021-A; EP1089759-A1; BR9912178-A; KR2001053042-A; JP2002518461-W; CN1354674-A
UNIV HUADONG TECH	Injectable solidifying on site cement with inorganic framework and application in micro traumatic treatment.	2003	CN1446591-A
UNIV NEW JERSEY MEDICINE & DENTISTRY	Transgenic mammalian packaging cell line for producing lentiviral vectors, useful for expressing HIV-1 envelope protein.	1999	AU200052907-A; EP1181353-A1; US6613569-B1
XOMA CORP	Composition useful as a parenteral drug comprises a bactericidal/permeability increasing protein or its biologically active fragment in combination with a poloxamer surfactant.	2000	US6255284-B1
ZONAGEN INC	Adjuvant for use in vaccines or immunogenic compositions for antibody production.	1997	US5980912-A

TERMOS

Dos 4 termos sugeridos (pelos especialistas) sobre este tema, 3 foram objeto de patenteamento, conforme tabela a seguir.

TEMA	TERMOS	Nº de Patentes focadas
Segurança Biológica	Normas internacionais	1
	Qualidade da Segurança Biológica	1
	Fluxo Gênico	1

15.1 Normas internacionais

Foi localizada apenas 1 patente focada neste termo, depositada nos Estados Unidos, que é mostrada abaixo.

Tabela do **país depositante** em Normas Internacionais:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Data transfer system for law enforcement agency, comprises two input terminals facilitating communication between entities having computing system which accepts standardized data and transferring it between entities.	2001	US2003070076-A1

Tabela do **depositante** em Normas Internacionais:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
MICHAEL K W	Data transfer system for law enforcement agency, comprises two input terminals facilitating communication between entities having computing system which accepts standardized data and transferring it between entities.	2001	US2003070076-A1

15.2 Qualidade da Segurança Biológica

Foi encontrada apenas 1 patente sobre Qualidade da Segurança Biológica, da França, apresentada a seguir:

Tabela do **país depositante** em Qualidade da Segurança Biológica:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
França	Continuous treatment plant for food products in controlled atmosphere and temperature has sealed outer structure delimiting at least two technical equipment chambers.	2003	FR2853496-A1

Tabela do **depositante** em Qualidade da Segurança Biológica:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
DESJONQUERES J	Continuous treatment plant for food products in controlled atmosphere and temperature has sealed outer structure delimiting at least two technical equipment chambers.	2003	FR2853496-A1

15.3 Fluxo Gênico

Para o termo Fluxo gênico, foi encontrada apenas 1 patente, dos Estados Unidos:

Tabela do **país depositante** em Fluxo Gênico:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Translocating an RNA into a chloroplast, for expressing proteins, comprises contacting the chloroplast with an RNA comprising a chloroplast localization sequence (CLS), and a sequence having non-natural association with CLS.	2002	US2004142476-A1; AU2003284388-A1

Tabela do **depositante** em Fluxo Gênico:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Translocating an RNA into a chloroplast, for expressing proteins, comprises contacting the chloroplast with an RNA comprising a chloroplast localization sequence (CLS), and a sequence having non-natural association with CLS.	2002	US2004142476-A1; AU2003284388-A1

16 Tema: Sustentabilidade Ambiental

O tema Sustentabilidade Ambiental não foi objeto de patenteamento, porém seus termos Organismos Geneticamente Modificados, Bioinseticidas e Biofungicidas são apresentados a seguir.

TEMA	TERMOS	Nº de Patentes focadas
Sustentabilidade Ambiental	OGMs	3
	Bioinseticidas	362
	Biofungicidas	43

16.1 Organismos Geneticamente Modificados

A tabela abaixo apresenta as patentes para este termo, sendo 2 delas da Coréia e 1 dos Estados Unidos:

Tabela dos **países depositantes** em OGM:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Coréia	GMO detective kit and primer for polymerase chain reaction (PCR).	2002	KR380560-B
	Detection primers for genetically modified organism(gmo) and manufactured goods, primers and probes for quantification of genetically modified organism, and detection kit using the same.	2000	KR2003084184-A
EUA	Identification of genetically modified (GMO) grain, useful for distinguishing between GMO and non-GMO grain, comprising subjecting grain to near infrared spectroscopy.	1999	AU200050430-A

Já as patentes por depositante são mostradas abaixo:

Tabela dos **depositantes** em OGM:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
GD BIOTECH CO LTD	Detection primers for genetically modified organism(gmo) and manufactured goods, primers and probes for quantification of genetically modified organism, and detection kit using the same.	2002	KR2003084184-A
NEXGEN; NEXGEN ASSOC INC	GMO detective kit and primer for polymerase chain reaction (PCR).	2000	KR2001106643-A
UNIV IOWA STATE RES FOUND INC	Identification of genetically modified (GMO) grain, useful for distinguishing between GMO and non-GMO grain, comprising subjecting grain to near infrared spectroscopy.	1999	AU200050430-A

16.2 Bioinseticidas

Para o termo “bioinseticidas”, foram encontradas 344 patentes, sendo que Estados Unidos tem a liderança em depósitos, com 41 patentes.

Tabela dos top **países depositantes** em Bioinseticidas:

País Depositante	Nº de Patentes
EUA	41
Rússia	23
Alemanha	6
Grã-Bretanha	6
Japão	6

Estas patentes, organizadas por país, são apresentadas abaixo:

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Bacillus thuringiensis CryET33 and CryET34 proteins - having activity against Coleoptera insects, particularly boll weevil, red flour beetle and Japanese beetle.	1996	EP1015592-A; AU9748033-A; CN1241213-A; EP1015592-A1; BR9713219-A; KR2000048593-A;; JP2001523944-W; US2003144192-A1
	Bacillus thuringiensis hybrid toxin H04 for controlling insects, e.g. fall army worm or European cornborer, and for creating insect resistant plants, comprises domains I and II of Cry1Ab and domain III of Cry1C.	2000	AU200185900-A; EP1311162-A2; KR2003029858-A; BR200113500-A; CN1449250-A; JP2004506432-W
	Chimeric insecticidal protein comprising cryIB and cryIA(b) portions.	1998	AU9931480-A; US6121521-A; EP1068230-A1; JP2002509710-W
	Composition comprising purified ecdysis triggering hormone - is useful for controlling insects, particularly leptiderigic insects.	1996	US5763400-A
	Control of insect, acarid or nematode pests with increased speed of kill - using recombinant insect virus expressing foreign protein or toxin and organic insecticide.	1994	AU9526506-A; BR9508982-A; JP10507065-W; KR97704356-A; NZ287698-A; MX9606624-A1; CN1159143-A; TW505506-A; EP768824-B1; ES2204953-T3; ZA9508847-A; US2002037275-A1
	Control of insects, acarids and nematodes - using novel scorpion toxins or a combination of 2 or more insect toxins.	1995	AU9657887-A; EP838999-A2; NZ308294-A; US5756340-A; JP11501521-W; AU710774-B; MX9708495-A1; BR9608474-A; KR99008424-A; US6162430-A; KR253766-B1; MX196622-B; CN1185718-A
	Determination of damage in plants, insects, or pathogens from exposure to a pesticidal agent involves preparing an extract, inoculating and incubating an enzyme-deficient microbial culture, and assessing the growth of the microbe.	1999	EP1043402-A2; AU200025251-A; CA2304424-A1; JP2000290116-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Disabled Bacillus thuringiensis apr and npr genes - encoding neutral and alkaline protease incapable of degrading insecticidal toxic protein (ITP), therefore increasing ITP prodn. and stability.	1995	AU9657114-A; US5962264-A
	DNA molecule from Autographa californica nuclear polyhedrosis virus - useful for generating an insect virus with improved killing time for insect pests.	1994	AU9532031-A; ZA9506276-A; EP775208-A1; BR9508441-A; MX9600235-A1
	Enhancing crop protection and killing resistant pests by applying to crops or expressing in crops of Bacillus thruingiensis toxins containing modifications to facilitate binding of the modified toxins to insect gut.	2000	AU200191259-A; EP1307098-A1; US2004193921-A1
	Increasing production of insecticidal toxins - by co-expression of CryIVD operon protein particularly in Escherichia coli or Bacillus thuringiensis, for control of lepidopteran, dipteran or coleopteran pests.	1996	AU9740590-A; EP896619-A2; JP2000506739-W
	Insect repellent composition - comprises ratite oil or its active fraction or fatty acids.	1997	AU9873672-A; EP989804-A1; BR9810751-A; CN1283959-A; MX9911677-A1; NZ501679-A; JP2002504141-W; US6538027-B2
	Insecticidal recombinant Bacillus thuringiensis strains - contain transposable elements for expression of recombinant insecticidal proteins.	1996	US5776449-A
	Isolated pure culture of a Bacillus subtilis strain - useful as an insecticidal against corn rootworm, nematodes, flies and beet armyworm.	1997	AU9890248-A; US6015553-A
	Isolated pure culture of Bacillus mycoides strain - useful as insecticidal against corn rootworm and aphids.	1997	US5906818-A; AU9890266-A; EP1005268-A1
	Isolated pure culture of Bacillus pumilus strain - useful as an insecticide against corn rootworm, nematodes and beet armyworm.	1997	AU9889116-A; US6001637-A
	Lepidopteran-active Bacillus thuringiensis delta-endotoxin polypeptides and the polynucleotides that encode them, useful for increasing the insect resistance of plant.	1999	AU200074916-A; EP1218513-A2; BR200014516-A; CN1390259-A; ZA200201610-A; MX2002002955-A1; US2003237111-A1
	Modified Bacillus thuringiensis hybrid crystal protein having improved insecticidal activity and broad insect host range against coleopteran, dipteran and lepidopteran insects, useful for controlling insect pests.	2000	AU200069030-A
	New Bacillus chitinosporus strain, mutants, culture and isolated toxic metabolite - useful as a nematocide and insecticide.	1996	US5733544-A; AU9872968-A; EP938262-A2; BR9714356-A; NZ335582-A; MX9904395-A1; JP2001505422-W
	New Bacillus pumilus strain, useful as fungicide for plant protection and a metabolite for increasing insecticidal activity of Bacillus thuringiensis.	1999	AU200037657-A; US2001022968-A1; NO200104653-A; EP1165751-A1; BR200009430-A; CZ200103239-A3; SK200101306-A3; KR2001112933-A; HU200200562-A2; CN1351652-A; JP2002539820-W; ZA200107386-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	New Bacillus subtilis strain AQ713 and its metabolites - showing bactericidal, fungicidal and insecticidal activity, useful in plant protection.	1997	AU9874767-A; NO9905462-A; EP981540-A1; BR9809282-A; CN1255143-A; SK9901490-A3; CZ9903757-A3; NZ500506-A; MX9910078-A1; JP2001507237-W; HU200004555-A2; KR2001012392-A; JP2003199558-A
	New Bacillus thuringiensis nucleic acid segments - comprising delta-endotoxin gene fragments, used for the control of insects, particularly Lepidopteran pests.	1996	ZA9710431-A; AU9853717-A; EP942929-A1; BR9713555-A; CN1245502-A; US6177615-B1; MX9904903-A1; JP2001506490-W
	New Bacillus thuringiensis polypeptide for use as an insecticide in protecting plants, such as, corn, wheat, oat, tobacco, or potato plants and in controlling insect populations, such as, Colorado potato beetle and southern rootworm.	1999	AU200046987-A; EP1173578-A2; BR200010303-A; CZ200103894-A3; CN1360632-A; ZA200108918-A; MX2001011313-A1; US2003232757-A1
	New bacterial insecticidal proteins, useful for making insecticidal composition to protect plants from damage by insects especially coleopteran insects.	2000	AU200170532-A; BR200110867-A; EP1287144-A2; CN1432065-A; JP2003533214-W
	New nucleic acid encoding Bacillus thuringiensis hybrid delta toxins - with increased and broader spectrum activity, used to produce transgenic plants with increased resistance to insects.	1997	ZA9710429-A; AU9853628-A; EP942985-A1; CN1268180-A; JP2001502555-W; MX9904675-A1; BR9713373-A; US2002064865-A1
	New recombinant baculovirus-based biological insecticides used to protect against the diamondback moth.	1998	AU9938856-A; EP1076717-A1; CZ200004156-A3; ZA200006301-A; HU200101684-A2; SK200001685-A3; KR2001043627-A; CN1310767-A; JP2002514435-W; NZ507918-A; BR9910515-A; MX2000010981-A1
	New transgenic monocotyledonous plants - comprising recombinant DNA encoding a peroxidase, used for protecting plants against insects.	1996	FR2758045-A1; ZA9711359-A; AU9860901-A; BE1011397-A3; EP946102-A2; US6002068-A; CN1240484-A; BR9714150-A; HU200000643-A2; MX9905746-A1; KR2000069581-A; JP2001510337-W; IT1300494-B
	New transposon Tn5401 from Bacillus thuringiensis and fragments of it - and related plasmids and transformed B. thuringiensis useful as insecticides.	1994	AU9473616-A; BR9406881-A; US5843744-A; JP11507801-W; EP707654-B1; ES2139086-T3; CA2166691-C
	New VIP3A(c) protein and homologues active against plant pests - used in entomocidal compositions for controlling insects and arachnids, e.g. Lepidoptera and Coleoptera species.	1997	ZA9802801-A; AU9868325-A; EP972062-A2; HU200000295-A2; BR9808483-A; CN1256712-A; MX9909043-A1; KR2001006015-A; JP2001524817-W; US6429360-B1; RU2222597-
	Novel delta endotoxin polypeptide of bacillus thuringiensis useful for controlling lepidopteran or coleopteran insect population comprises at least ten contiguous amino acids of a specific sequence.	1998	AU200019068-A; EP1129198-A1; BR9915828-A; ZA200103164-A; US2003068335-A1; MX2001004361-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Novel isolated Coleopteran insecticidal polypeptide useful in various insect inhibitory, immunological and diagnostic applications, and for detecting antibody that binds to the polypeptide.	2000	AU200190919-A; US2004023875-A1
	Novel pesticidal toxin, designated Vip3 toxins from Bacillus thuringiensis, useful for controlling insects, e.g., lepidopteran insect, is highly active against a wide range of insect pests.	2001	EP1377157-A4; HU200303738-A2; BR200208589-A; AU2002307058-A1; US2004133942-A1; ZA200307266-A; CN1527663-A
	Novel polypeptide and polynucleotide compositions toxic to Anthonomus insects, useful in insecticidal formulations and for the development of transgenic insect-resistant plants.	2000	AU200159260-A; US2003229919-A1
	Potassium channel genes from Drosophila melanogaster and Caenorhabditis elegans - useful in assaying substances to determine effects on cell growth, and in inhibiting nematode and insect pests.	1994	EP789712-A1; JP10508473-W; US2003165806-A1; AU9944698-A
	Prodn. of coated pesticidal agent, esp. insecticidal virus - using pH-dependent polymer and ultraviolet protector.	1994	EP697170-A1; AU9527219-A; BR9503455-A; CA2154640-A; CZ9501928-A3; JP8109103-A; SK9500952-A3; ZA9506277-A; NZ272661-A; HU214499-B; IL114740-A; US5965123-A; TW381003-A; CN1142889-A; RU2152152-C2
	Repelling biting insects, especially mosquitoes - by using emu oil or flash chromatography fractions of emu oil.	1996	AU9725306-A; CN1213311-A; NZ331626-A; JP2000506867-W; AU722113-B; KR99087813-A; US2001010813-A1; EP1019067-B1; DE69729012-E
	Strains of Bacillus thuringiensis with increased production of Cryl crystal protein - and normal sporulation properties, useful as insecticide for control of Lepidoptera pests.	1996	AU9735994-A; US5804180-A; BR9710320-A; MX9900653-A1
	Streptomyces strain useful as an insecticide for preventing or treating a plant, root or fruit from Lepidoptera.	2000	AU200157595-A; EP1272611-A2; BR200110083-A; US6682925-B1; MX2002010145-A1; JP2004507221-W; ZA200209121-A; NZ522369-A
	Synergistic compsn. for control of lepidopteran pests - contains chemical insecticide and genetically modified insect virus, either expressing a toxin or not expressing ecdysteroid UDP-glucosyl transferase.	1995	AU9532029-A; ZA9506274-A; EP772399-A1; BR9508445-A; MX9700646-A1; JP10503650-W; TW326384-A; KR97704355-A; CZ9700201-A3; NZ291028-A; HU221352-B1; CN1162906-A; RU2200394-C2

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Treatment or prevention of insect infestation on plants and fruit, using Bacillus subtilis AQ713 or its culture broth or metabolites, e.g. for control of corn rootworm.	1998	AU200012233-A; NO200102344-A; EP1131342-A1; CZ200101620-A3; BR9915339-A; SK200100656-A3; KR2001075707-A; CN1335854-A; HU200104242-A2; JP2002530290-W; US2003186852-A1; MX2001004814-A1;
	Vector expressing modified juvenile hormone esterase lacking a signal sequence - is useful for killing agricultural pests esp. noctuid insects.	1995	AU9658827-A; ZA9604431-A; US5674485-A
Rússia	Method for protecting vegetating solanaceae plants against harmful insects comprises spraying with suspension of nematodes and antidessicant.	2002	RU2228631-C1
	Method for producing acaricide-insecticide composition.	2002	RU2227465-C1
	Method for protecting vegetating solanaceae plants against harmful insects.	2002	RU2228636-C1
	Method for the protection of vegetating solanaceae plants against harmful insects comprises spraying with suspension of nematodes and antioxidant.	2002	RU2227475-C1
	Method for manufacturing acaricide- insecticide composition.	2002	RU2228035-C1
	Method for production of acaricido-insecticide preparation.	2002	RU2226830-C1
	Method of protection of vegetating solanaceae crops from destructive insects.	2001	RU2197821-C1
	Acaricide-insecticide composition comprises suspension of nematodes with an antidesiccant agent from Mortierella fungi.	2002	RU2228621-C1
	Agricultural composition, useful as acaricide and insecticide for plants, comprises biomass of micromycetes mortierella bainieri.	2002	RU2227468-C1
	Agricultural composition, useful as acaricide and insecticide for plants, comprises biomass of micromycetes Pythium irregulare.	2002	RU2227467-C1
	Agricultural composition, useful as acaricide or insecticide for plants, comprises nematode and anti-desiccant biomass suspension.	2002	RU2227466-C1
	Method for manufacturing acaricide-insecticide composition comprises mixing suspension of nematodes with antidessicant extracted from micromycete biomass.	2002	RU2228624-C1
	Method for manufacturing acaricide-insecticide composition comprises use of preparation obtained from micromycete biomass as antidessicant.	2002	RU2228623-C1
	Method for manufacturing acaricide-insecticide composition comprising nematodes and antidessicant extracted from Mortierella biomass.	2002	RU2228622-C1
	Method for preparing acaricide-insecticide preparation.	2002	RU2227460-C1
Rússia	Method for preventing the development of colorado potato beetle's resistance to insecticides.	2003	RU2238646-C1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Method for protecting plants of the Solanaceae family against harmful insects.	2002	RU2228637-C1
	Method for protecting tilled and industrial crops from insects.	2001	RU2205541-C2
	Method for protecting vegetating Solanaceae plants against harmful insects comprises spraying with composition comprising nematodes and antidessicant.	2002	RU2228625-C1
	Method for protecting vegetating solanaceae plants against harmful insects comprises spraying with steinernema feltiae nematodes and antioxidant suspension.	2002	RU2227470-C1
	Method for the protection of vegetating solanaceae plants against harmful insects comprises spraying with a suspension of nematodes and biomass antioxidant.	2002	RU2227471-C1
	Method for the protection of vegetating solanaceae plants against harmful insects comprises spraying with nematode suspension and antioxidant.	2002	RU2227474-C1
	Method for the protection of vegetating solanaceae varieties against harmful insects comprises spraying with suspension of entomopathogenic nematodes and antioxidant.	2002	RU2227469-C1
Alemanha	Compsns. for controlling insects and acaricides - comprise signal substance, ultraviolet absorber, unsatd. oil, and opt. pesticides and/or additives, useful in agriculture, forestry and horticulture.	1995	ZA9606582-A; AU9667354-A; TW334341-A; NZ315605-A; HU9900300-A2; JP11510174-W; MX9800914-A1; KR99036005-A; US6395776-B1; EP845942-B1; DE59609786-G; ES2180790-T3
	Granular pesticidal compsn. contg. microorganisms - with cereal grits as carrier material, partic. for control of soil insects.	1994	AU9641169-A; US5804208-A; JP10509964-W; EP794704-B1; DE59509646-G; ES2164166-T3
	Insecticide mixts based on Bacillus spp. - also contain an agonist or antagonist of nicotinergic acetylcholine receptors of insects..	1994	EP677247-A1; DE4412834-A1; JP7285818-A; BR9501569-A; CA2146822-A; ZA9503065-A; CN1112392-A
	New invertebrate gamma-aminobutyric acid receptor proteins, useful in screening for potential insecticides, for plant protection or medicine, also related nucleic acid.	1999	DE19955408-A1; FR2801593-A1; JP2001186893-A; US6794149-B1; GB2357768-B
	New polypeptides from Drosophila melanogaster have biological activity of peptide receptor, useful to find new compounds for plant protection and insecticides.	2000	EP1136501-A; DE10013618-A1; EP1136501-A2; JP2001299369-A; US2002056151-A1
	Use of enveloped agrochemical, especially herbicide, safener, growth regulator, insecticide or fungicide, for suppression of antagonistic interactions in agrochemical mixtures.	2000	DE10022989-A1; AU200167410-A; US2002055436-A1; EP1282353-A1; BR200110738-A; CN1431863-A; JP2003532652-W
Grã-Bretanha	Administration of Bacillus sp. toxin protein, especially Cry or vegetative insecticidal protein (VIP) protein to plants - useful for protection against attack by Asian Corn Borer (Ostrinia furnacalis).	1996	AU9730296-A; JP2000511543-W; CN1312005-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Beneficial insect- or mite-providing system for controlling pest insects on horticultural crops in protected cropping environment, has at least two planar regions, with one region being compartment containing beneficial insects or mites.	2004	FR2849646-A1; GB2393890-B; JP2004175810-A; CA2455156-A1; NL1025543-C2; ES2213494-A1
	Mixtures of gamma-cyhalothrin and other active ingredients useful for combating or controlling insect, acarine or nematode pests.	2001	EP1414304-A1; KR2004018509-A; AU2002345228-A1; BR200211298-A; MX2004000661-A1
	New locus at which plant pests feed and having a first or second region comprising plants that respectively produce a first or second pesticidal toxin, for use in reducing the incidence of insect resistance to a first insecticidal toxin.	2003	GB2400035-A
	Novel insecticidal protein obtained from species of Paecilomyces for controlling insects, and for insect-resistant transgenic plant production.	1999	AU200055534-A; EP1196585-A1; JP2003503060-W; MX2001012883-A1
	Protecting plants against insects of the genus Sesamia using Bacillus toxic proteins - applied directly or expressed as heterologous protein by the plant, also transgenic plants expressing both Cry and VIP type toxins.	1996	AU9713059-A; EP871737-A1; HU9900049-A2
Japão	Control of pest insects - by spraying with aqueous solution of macromolecules and subsequently spraying or releasing natural enemies.	1997	JP10251113-A
	Insecticidal and acaricidal composition, useful for controlling insects and mites in agriculture and horticulture, containing specific organic compounds.	2000	JP2002053413-A
	New entomophagous Paecilomyces tenuipes strain T1 useful for controlling insect pests.	2001	EP1297746-A; EP1297746-A1; JP2003095834-A; US2003124098-A1; EP1297746-B1
	Poison bait for controlling noxious insects - comprises fermented milk product as appetite stimulating factor.	1996	FR2751176-A1; JP10081602-A; GB2315217-B; BR9703971-A; KR98007988-A; ES2131007-B1; TW368393-A; IT1296317-B; CN1174660-A
	Poison bait for destroying noxious insects - comprises sesame seed meal.	1997	JP11079901-A
	Poison baits for insect pests control - contains insecticidally active ingredient and insect body of Lepidoptera larvae.	1996	JP10139611-A

Dez instituições são responsáveis por 98 das 344 patentes focadas em Bioinseticidas, conforme a tabela a seguir:

Depositante ou (Corporação)	Nº de Patentes
CONSERVE FRUIT DRYING IND INST	18

AGRAQUEST INC	10
NOVARTIS	8
ECOGEN INC	7
AMERICAN CYANAMID CO	6
MONSANTO TECHNOLOGY LLC	6
PLANTS BIOLOG PROTECTION RES INST	6
SUMITOMO CHEM CO LTD	6
UNIV CALIFORNIA	6

Tabela **dos top depositantes** em Bioinseticidas:

Destes depositantes, o CONSERVE FRIUT DRYING INSTITUTE tem a liderança, com 18 patentes, todas sem parcerias. Suas patentes são mostradas a seguir:

Depositante	**Título da Patente**	**Ano de Prioridade**	**Número da Patente**
CONSERVE FRUIT DRYING IND INST	Method for protecting vegetating solanaceae plants against harmful insects comprises spraying with suspension of nematodes and antidessicant.	2002	RU2228631-C1
	Method for producing acaricide-insecticide composition.	2002	RU2227465-C1
	Method for protecting vegetating solanaceae plants against harmful insects.	2002	RU2228636-C1
	Method for the protection of vegetating solanaceae plants against harmful insects comprises spraying with suspension of nematodes and antioxidant.	2002	RU2227475-C1
	Method for manufacturing acaricide- insecticide composition.	2002	RU2228035-C1
	Acaricide-insecticide composition comprises suspension of nematodes with an antidesiccant agent from Mortierella fungi.	2002	RU2228621-C1
	Agricultural composition, useful as acaricide and insecticide for plants, comprises biomass of micromycetes mortierella bainieri.	2002	RU2227468-C1
	Agricultural composition, useful as acaricide and insecticide for plants, comprises biomass of micromycetes Pythium irregulare.	2002	RU2227467-C1
	Agricultural composition, useful as acaricide or insecticide for plants, comprises nematode and anti-desiccant biomass suspension.	2002	RU2227466-C1
	Method for manufacturing acaricide-insecticide composition comprises mixing suspension of nematodes with antidessicant extracted from micromycete biomass.	2002	RU2228624-C1
	Method for manufacturing acaricide-insecticide composition comprises use of preparation obtained from micromycete biomass as antidessicant.	2002	RU2228623-C1
CONSERVE FRUIT DRYING IND INST	Method for manufacturing acaricide-insecticide composition comprising nematodes and antidessicant extracted from Mortierella biomass.	2002	RU2228622-C1
	Method for protecting plants of the Solanaceae family against harmful insects.	2002	RU2228637-C1
	Method for protecting vegetating Solanaceae plants against harmful insects comprises spraying with composition comprising nematodes and antidessicant.	2002	RU2228625-C1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Method for protecting vegetating solanaceae plants against harmful insects comprises spraying with steinernema feltiae nematodes and antioxidant suspension.	2002	RU2227470-C1
	Method for the protection of vegetating solanaceae plants against harmful insects comprises spraying with a suspension of nematodes and biomass antioxidant.	2002	RU2227471-C1
	Method for the protection of vegetating solanaceae plants against harmful insects comprises spraying with nematode suspension and antioxidant.	2002	RU2227474-C1
	Method for the protection of vegetating solanaceae varieties against harmful insects comprises spraying with suspension of entomopathogenic nematodes and antioxidant.	2002	RU2227469-C1
AGRAQUEST INC	Isolated pure culture of a Bacillus subtilis strain - useful as an insecticidal against corn rootworm, nematodes, flies and beet armyworm.	1997	AU9890248-A; US6015553-A
	Isolated pure culture of Bacillus mycoides strain - useful as insecticidal against corn rootworm and aphids.	1997	US5906818-A; AU9890266-A; EP1005268-A1
	Isolated pure culture of Bacillus pumilus strain - useful as an insecticide against corn rootworm, nematodes and beet armyworm.	1997	AU9889116-A; US6001637-A
	New Bacillus pumilus strain, useful as fungicide for plant protection and a metabolite for increasing insecticidal activity of Bacillus thuringiensis.	1999	AU200037657-A; US2001022968-A1; NO200104653-A; EP1165751-A1; BR200009430-A; CZ200103239-A3; SK200101306-A3; KR2001112933-A; HU200200562-A2; CN1351652-A; JP2002539820-W; ZA200107386-A; MX2001009695-A1; NZ514040-A
	New Bacillus subtilis strain AQ713 and its metabolites - showing bactericidal, fungicidal and insecticidal activity, useful in plant protection.	1997	AU9874767-A; NO9905462-A; EP981540-A1; BR9809282-A; CN1255143-A; SK9901490-A3; CZ9903757-A3; NZ500506-A; MX9910078-A1; JP2001507237-W; HU200004555-A2; KR2001012392-A; JP2003199558-A;
AGRAQUEST INC	Streptomyces strain useful as an insecticide for preventing or treating a plant, root or fruit from Lepidoptera.	2000	AU200157595-A; EP1272611-A2; BR200110083-A; US6682925-B1; MX2002010145-A1; JP2004507221-W; ZA200209121-A; NZ522369-A

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Treatment or prevention of insect infestation on plants and fruit, using Bacillus subtilis AQ713 or its culture broth or metabolites, e.g. for control of corn rootworm.	1998	AU200012233-A; NO200102344-A; EP1131342-A1; CZ200101620-A3; BR9915339-A; SK200100656-A3; KR2001075707-A; CN1335854-A; HU200104242-A2; JP2002530290-W; US2003186852-A1; MX2001004814-A1
AGRAQUEST INC; MARRONE P G; JUDD S; MANKER D C; PERKIN-ELMER CORP; PE ZOOGEN	Repelling biting insects, especially mosquitoes - by using emu oil or flash chromatography fractions of emu oil.	1996	AU9725306-A; US5801196-A; CN1213311-A; NZ331626-A; JP2000506867-W; KR99087813-A; US2001010813-A1; EP1019067-B1; DE69729012-E
AGRAQUEST INC; PE CORP NY	Insect repellent composition - comprises ratite oil or its active fraction or fatty acids.	1997	AU9873672-A; EP989804-A1; BR9810751-A; CN1283959-A; MX9911677-A1; NZ501679-A; JP2002504141-W; US6538027-B2
AGRAQUEST INC; UNIV SASKATCHEWAN	New Bacillus chitinosporus strain, mutants, culture and isolated toxic metabolite - useful as a nematocide and insecticide.	1996	US5733544-A; AU9872968-A; EP938262-A2; BR9714356-A; NZ335582-A; MX9904395-A1; JP2001505422-W
NOVARTIS AG	Administration of Bacillus sp. toxin protein, especially Cry or vegetative insecticidal protein (VIP) protein to plants - useful for protection against attack by Asian Corn Borer (Ostrinia furnacalis).	1996	AU9730296-A; JP2000511543-W; CN1312005-A
NOVARTIS AG	Composition for controlling insects and acarids - comprises one or more perhydro-oxadiazine derivatives and another pesticide, such as pirimicarb, terbufos, diethion, ethofenprox or ivermectin..	1996	ZA9703630-A; AU9726992-A; BR9709181-A; JP2000509379-W; MX9808969-A1; KR2000065069-A; CN1401234-A; EP900024-B1; DE69722930-E; TW526044-A; ES2202609-T3; US2004176369-A1

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	New VIP3A(c) protein and homologues active against plant pests - used in entomocidal compositions for controlling insects and arachnids, e.g. Lepidoptera and Coleoptera species.	1997	ZA9802801-A; AU9868325-A; EP972062-A2; HU200000295-A2; BR9808483-A; CN1256712-A; MX9909043-A1; KR2001006015-A; JP2001524817-W; RU2222597-C2; US2002078473-A1
NOVARTIS AG; CIBA GEIGY AG; NOVARTIS-ERFINDUNGEN VERWALTUNGS GMBH	Protecting plants against insects of the genus Sesamia using Bacillus toxic proteins - applied directly or expressed as heterologous protein by the plant, also transgenic plants expressing both Cry and VIP type toxins.	1996	WO9726339-A; EP871737-A; WO9726339-A1; AU9713059-A; EP871737-A1; HU9900049-A2
NOVARTIS AG; NOVARTIS-ERFINDUNGEN VERW GES MBH	Chimeric insecticidal protein comprising cryIB and cryIA(b) portions.	1998	AU9931480-A; US6121521-A; EP1068230-A1; JP2002509710-W
NOVARTIS AG; SYNGENTA PARTICIPATIONS AG; NOVARTIS-ERFINDUNGEN VERW GES MBH; SYNGENTA CROP PROTECTION INC; LEE B	Control of pests in transgenic plant crops using insecticides.	1998	FR2773673-A1; ZA9900275-A; AU9927168-A; NL1011058-C2; GB2348606-A; DE19982478-T; BR9907013-A; CN1291863-A; HU200100555-A2; KR2001024861-A; MX2000006965-A1; IT1306203-B; JP2002509084-W; ES2184590-A1; NZ505601-A; US2003153591-A1; CH693621-A5
NOVARTIS AG; US SEC OF AGRIC; UNIV OHIO STATE; US DEPT OF AGRICULTURE; UNIV OHIO STATE RES FOUND; NOVARTIS FINANCE CORP	New transgenic monocotyledonous plants - comprising recombinant DNA encoding a peroxidase, used for protecting plants against insects.	1996	FR2758045-A1; ZA9711359-A; AU9860901-A; BE1011397-A3; EP946102-A2; US6002068-A; CN1240484-A; BR9714150-A; HU200000643-A2; MX9905746-A1; KR2000069581-A; JP2001510337-W; IT1300494-B

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
NOVARTIS AG; ENZMANN M; BAETTIG W; CIBA GEIGY AG; NOVARTIS-ERFINDUNGEN VERWALTUNGS GMBH	Formulation contg. microorganisms for use in horticulture - for protection of plants against weeds, insects and disease, has high viability and rapid release characteristics.	1994	ZA9505830-A; AU9529804-A; FI9700103-A; NO9700136-A; EP770126-A1; CZ9700092-A3; SK9700031-A3; HU76428-T; BR9508398-A; KR97704873-A; HU214917-B; NZ289842-A; TW345486-A; JP11505403-W;; IL114573-A; MX9700377-A1; RU2160990-C2; CN1152936-A; US2002015988-A1
ECOGEN INC	Bacillus thuringiensis CryET33 and CryET34 proteins - having activity against Coleoptera insects, particularly boll weevil, red flour beetle and Japanese beetle.	1996	AU9748033-A; CN1241213-A; US6063756-A; EP1015592-A1; BR9713219-A; KR2000048593-A; JP2001523944-W; US2003144192-A1
	Disabled Bacillus thuringiensis apr and npr genes - encoding neutral and alkaline protease incapable of degrading insecticidal toxic protein (ITP), therefore increasing ITP prodn. and stability.	1995	AU9657114-A; US5962264-A
	Insecticidal recombinant Bacillus thuringiensis strains - contain transposable elements for expression of recombinant insecticidal proteins.	1996	US5776449-A
	New Bacillus thuringiensis nucleic acid segments - comprising delta-endotoxin gene fragments, used for the control of insects, particularly Lepidopteran pests.	1996	ZA9710431-A; AU9853717-A; US5942664-A; EP942929-A1; BR9713555-A; CN1245502-A; US6177615-B1; MX9904903-A1; JP2001506490-W;
ECOGEN INC	New nucleic acid encoding Bacillus thuringiensis hybrid delta toxins - with increased and broader spectrum activity, used to produce transgenic plants with increased resistance to insects.	1997	ZA9710429-A; AU9853628-A; CN1268180-A; JP2001502555-W; MX9904675-A1; BR9713373-A; US2004171120-A1; EP942985-B1; DE69730730-E
	New transposon Tn5401 from Bacillus thuringiensis and fragments of it - and related plasmids and transformed B. thuringiensis useful as insecticides.	1994	AU9473616-A; BR9406881-A; US5843744-A; JP11507801-W; EP707654-B1; ES2139086-T3; CA2166691-C

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Strains of Bacillus thuringiensis with increased production of Cryl crystal protein - and normal sporulation properties, useful as insecticide for control of Lepidoptera pests.	1996	AU9735994-A; US5804180-A; BR9710320-A; MX9900653-A1

16.3 Biofungicidas

Das 43 patentes em “biofungicidas”, os Estados Unidos e Alemanha se destacam, com 8 e 6 patentes, respectivamente. As patentes por país são mostradas a seguir:

Tabela dos top **países depositantes** em Biofungicidas:

País Depositante	Nº de Patentes
EUA	8
Alemanha	6
Inglaterra	4
Japão	4
China	3
França	3

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
EUA	Composition, useful for controlling or suppressing the growth of plant pathogenic fungus e.g. Rhizoctonia species, comprises a dry inert carrier of a bacterial strain that exhibits fungicidal or fungistatic activity.	2001	US2004043005-A1; AU2002357356-A1
	Fungicidal and/or bactericidal composition useful for sterilization of bacteria and fungi, comprising iturin, surfactin and amphipathic organic material having a hydrocarbon chain.	2001	JP2003155207-A; EP1414306-A1; AU2002326156-A1
	Fungicide composition useful for treating plants comprising chemical fungicide(s) and microorganisms selected from bacteria, fungi, microfungi, mold, lichens, algae, viruses, protozoa and yeast.	2002	US2003068303-A1; EP1392118-A2; KR2004002952-A; AU2002259126-A1
	New Bacillus pumilus strain, useful as fungicide for plant protection and a metabolite for increasing insecticidal activity of Bacillus thuringiensis.	1999	AU200037657-A; US2001022968-A1; NO200104653-A; EP1165751-A1; BR200009430-A; CZ200103239-A3; SK200101306-A3; KR2001112933-A; HU200200562-A2; CN1351652-A; JP2002539820-W; ZA200107386-A
	New Bacillus subtilis strain AQ713 and its metabolites - showing bactericidal, fungicidal and insecticidal activity, useful in plant protection.	1997	AU9874767-A; NO9905462-A; EP981540-A1; BR9809282-A; CN1255143-A; SK9901490-A3; CZ9903757-A3; NZ500506-A; MX9910078-A1; HU200004555-A2; KR2001012392-A; SK283036-B6; JP2003199558-A
	New mutant strains of Pseudomonas fluorescens - useful as fungicides, esp. against Rhizoctonia solani.	1994	AU9512789-A; US5496547-A; EP743980-A1; JP9508269-W; CN1139453-A; RU2154943-C2
	Non-aqueous concentrated single phase spreading oil formulation for crop protectants, especially triazolo-pyrimidine fungicides used in paddy rice, contains plant oil and polar aprotic solvent.	2000	US6387848-B1
EUA	Pre-germinated rice seed which can be sown by plane - comprises plant growth regulator e.g. gibberellic acid, and optionally phyto-protection product e.g. an insecticide, fungicide, micronutrient or macro-nutrient.	1996	AU9724818-A; PT102014-A; US2001004460-A1

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
Alemanha	Agrochemical mixture of active agent, e.g. fungicide, and wax of specific acid index and viscosity, providing e.g. reduced volatility and toxicity, increased reliability and rain resistance and slow release.	1999	DE19906491-A1; AU200026688-A; JP2002537309-W; EP1157085-B1
	Identifying fungicides, useful in plant protection or medicine, from their ability to inhibit the 20S proteasome, also isolation of eukaryotic proteasomes.	2002	EP1382691-A2; DE10232902-A1; JP2004049236-A; US2004053312-A1
	Production of fungicide-tolerant plants - by expression of exogenous fungicide-binding polypeptide.	1997	DE19718251-A1; AU9873356-A; ZA9803594-A; NO9905291-A; EP979295-A1; CZ9903821-A3; SK9901372-A3; BR9808698-A; CN1254381-A; NZ500181-A; HU200003594-A2; MX9909498-A1; KR2001020387-A; JP2001523101-W
	Synergistic fungicidal agent, esp. for control of Botrytis - contains cytochrome complex III inhibitor and fungicidal amide cpd..	1995	AU9672129-A; ZA9607964-A; EP859549-A1; CZ9800881-A3; SK9800381-A3; CN1196657-A; HU9802728-A2; BR9610574-A; JP11511469-W; MX9802157-A1; NZ319577-A; KR99063657-A; TW384208-A; IL123632-A; US6169056-B1
	Use of enveloped agrochemical, especially herbicide, safener, growth regulator, insecticide or fungicide, for suppression of antagonistic interactions in agrochemical mixtures.	2000	DE10022989-A1; AU200167410-A; US2002055436-A1; EP1282353-A1; BR200110738-A; CN1431863-A; JP2003532652-W
	Wood preservative contg. plant extracts - with fungicidal and insecticidal activity.	1995	DE19530894-A; DE19530894-A1
Grã-Bretanha	Fungicidal mixture for protecting crops, comprises (R)-metalaxyl and second fungicidal component.	1998	AU9958587-A; BR9913459-A; US2001046492-A1; JP2002524396-W; MX2001002307-A1; EP1402777-A1; DE69919762-E
	Identifying possible fungicides - from their ability to inhibit protein kinase and the identified inhibitors, useful in plant protection.	1996	EP904403-A; ZA9704450-A; AU9729550-A; EP904403-A1; JP2000511415-W; EP904403-B1; DE69710455-E; US6399319-B1
	LEU A promoters useful for screening for fungicidal compounds and isolated from the 3-isopropylmalate dehydrogenase gene of Stagonospora nodorum.	1998	AU9954374-A
	Use of carboxymethyl cellulase, alpha-mannanase and xylanase enzymes as plant fungicides.	1997	GB2331520-A
Japão	Fungicidal compsn. - contains chemically synthesised fungicides selected from benomyl, carbendazole, iprodione or vinclozolin.	1996	JP10109913-A
	Fungicidal compsns. for agriculture - comprises spores of Bacillus genus bacteria and humectant.	1994	JP8175920-A
	Fungicide for use as dermatologic medicine, pesticide, or soil amendment, contains compound produced by microorganism belonging to genus Enterococcus.	2002	US2003170218-A1; JP2003306437-A
Japão	Spore fractions of Bacillus genus bacteria for control of fungicidal plant diseases - by culturing B. subtilis in nutrient media and collecting spores.	1994	JP8175919-A
China	Agent for greening and improving growth of fruit trees with fungicidal and anti-rottenness function.	2003	CN1513329-A

País Depositante	Título da Patente	Ano de Prioridade	Número da Patente
	Fungicidal composition useful as farm steriliser - comprises e.g peroxyacetic acid, ethyl alcohol and brown sugar.	1998	CN1192856-A
	Natural fungistatic agent technology for aflatoxin.	1995	CN1145725-A
França	Fungicidal or fungistatic composition containing synergistic combination of glycolytic enzyme(s) and substrate, useful for protecting seeds without reducing germination rate or for protecting stored foods.	1998	FR2785149-A1; AU9963480-A; EP1124427-A1; US2002076402-A1; ZA200103407-A; MX2001004250-A1
	New polynucleotide encoding antimicrobial peptide termicin, useful e.g. as fungicide, for clinical use or for plant protection, particularly expressed by transgenic plants.	2000	FR2810993-A1; AU200170669-A; EP1294880-A2; US2004087771-A1
	Synergistic fungicidal compsns., useful in controlling phytopathogenic fungi in crops or lawns - comprise strobilurin analogue and iprodione, procymidone or vinchlozoline.	1995	FR2739529-A1; AU9672192-A; CN1198656-A; BR9611213-A; JP11514993-W; MX9802657-A1; NZ319631-A;; KR99064025-A; IL123919-A; US2003027720-A1; EP855859-B1; DE69626657-E; ES2188791-T3

Onze instituições são responsáveis por 25 das 43 patentes focadas em Biofungicidas, conforme a tabela abaixo:

Tabela dos top **depositantes** em Biofungicidas:

Depositante ou (Corporação)	Nº de Patentes

BASF AG	3
BAYER	3
IDEMITSU KOSAN CO	3
AGRAQUEST INC	2
AVENTIS CROPSCIENCE	2
KEMIRA AGRO OY & VERDERA OY	2
GIST-BROCADES BV & DSM NV	2
NOVARTIS & SYNGENTA	2
RHONE POULENC AGROCHIMIE	2

A liderança encontra-se dividida entre três empresas, Basf, Bayer e Idemitsu, cada uma com três patentes. A Basf não apresenta parcerias em suas patentes:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
BASF AG	Synergistic fungicidal agent, esp. for control of Botrytis - contains cytochrome complex III inhibitor and fungicidal amide cpd..	2000	AU9672129-A; ZA9607964-A; CZ9800881-A3; SK9800381-A3; CN1196657-A; HU9802728-A2; BR9610574-A; JP11511469-W; MX9802157-A1; NZ319577-A; KR99063657-A; TW384208-A; IL123632-A; US6169056-B1; EP859549-B1; DE59607511-G; ES2162096-T3; SK283107-B6
	Non-aqueous concentrated single phase spreading oil formulation for crop protectants, especially triazolo-pyrimidine fungicides used in paddy rice, contains plant oil and polar aprotic solvent.	1997	US6387848-B1
	Production of fungicide-tolerant plants - by expression of exogenous fungicide-binding polypeptide.	1995	DE19718251-A1; AU9873356-A; ZA9803594-A; NO9905291-A; EP979295-A1; CZ9903821-A3; SK9901372-A3; BR9808698-A; CN1254381-A; NZ500181-A; HU200003594-A2; MX9909498-A1; KR2001020387-A; JP2001523101-W

Em duas das patentes da Bayer há perceria com a Aventis, de acordo com a tabela a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
BAYER CROPSCIENCE SA; AVENTIS CROPSCIENCE SA; RHONE POULENC AGROCHIMIE; DUVERT P	Synergistic fungicidal compsns., useful in controlling phytopathogenic fungi in crops or lawns - comprise strobilurin analogue and iprodione, procymidone or vinchlozoline.	2002	FR2739529-A1; AU9672192-A; CN1198656-A; BR9611213-A; JP11514993-W; MX9802657-A1; NZ319631-A; KR99064025-A; IL123919-A; US2003027720-A1; EP855859-B1; DE69626657-E; ES2188791-T3
BAYER CROPSCIENCE GMBH; AVENTIS CROPSCIENCE GMBH; KRAUSE H; SCHNABEL G; FRISCH G; WURTZ J; BICKERS U; HACKER E; AULER T; MELENDEZ A; HAASE D	Use of enveloped agrochemical, especially herbicide, safener, growth regulator, insecticide or fungicide, for suppression of antagonistic interactions in agrochemical mixtures.	1995	DE10022989-A1; AU200167410-A; US2002055436-A1; EP1282353-A1; BR200110738-A; CN1431863-A; JP2003532652-W
BAYER CROPSCIENCE AG; MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN; AICHINGER C; SCHREIER P; EBBERT R; HUBER R; GROLL M	Identifying fungicides, useful in plant protection or medicine, from their ability to inhibit the 20S proteasome, also isolation of eukaryotic proteasomes.	2000	EP1382691-A2; DE10232902-A1; JP2004049236-A; US2004053312-A1

A Idemitsu Kosan com três patentes, não apresenta parcerias nos depósitos:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
IDEMITSU KOSAN	Fungicidal compsns. for agriculture - comprises spores of Bacillus genus bacteria and humectant.	1994	JP8175920-A
	Spore fractions of Bacillus genus bacteria for control of fungicidal plant diseases - by culturing B. subtilis in nutrient media and collecting spores.	1994	JP8175919-A
	Fungicidal compsn. - contains chemically synthesised fungicides selected from benomyl, carbendazole, iprodione or vinclozolin.	1996	JP10109913-A

As empresas com duas patentes cada são apresentadas a seguir:

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
AGRAQUEST INC	New Bacillus pumilus strain, useful as fungicide for plant protection and a metabolite for increasing insecticidal activity of Bacillus thuringiensis.	1997	AU200037657-A; US2001022968-A1; NO200104653-A; EP1165751-A1; BR200009430-A; CZ200103239-A3; SK200101306-A3; KR2001112933-A; HU200200562-A2; CN1351652-A; JP2002539820-W; ZA200107386-A; MX2001009695-A1; NZ514040-A;
	New Bacillus subtilis strain AQ713 and its metabolites - showing bactericidal, fungicidal and insecticidal activity, useful in plant protection.	1999	NO9905462-A; EP981540-A1; BR9809282-A; CN1255143-A; SK9901490-A3; CZ9903757-A3; AU732724-B; NZ500506-A; MX9910078-A1; HU200004555-A2; KR2001012392-A; SK283036-B6; JP3471815-B2
AVENTIS CROPSCIENCE SA; RHONE POULENC AGROCHIMIE; DUVERT P; BAYER CROPSCIENCE SA	Synergistic fungicidal compsns., useful in controlling phytopathogenic fungi in crops or lawns - comprise strobilurin analogue and iprodione, procymidone or vinchlozoline.	2000	FR2739529-A1; AU9672192-A; CN1198656-A; BR9611213-A; JP11514993-W; MX9802657-A1; NZ319631-A; KR99064025-A; IL123919-A; US2003027720-A1; EP855859-B1; DE69626657-E; ES2188791-T3
AVENTIS CROPSCIENCE GMBH; KRAUSE H; SCHNABEL G; FRISCH G; WURTZ J; BICKERS U; HACKER E; AULER T; MELENDEZ A; HAASE D; BAYER CROPSCIENCE GMBH	Use of enveloped agrochemical, especially herbicide, safener, growth regulator, insecticide or fungicide, for suppression of antagonistic interactions in agrochemical mixtures.	1995	DE10022989-A1; AU200167410-A; US2002055436-A1; EP1282353-A1; BR200110738-A; CN1431863-A; JP2003532652-W
KEMIRA AGRO OY; VERDERA OY	New fungus Gliocladium catenulatum for controlling plant diseases - used in bio-fungicide prepns. against plant infections, can be applied to the plant, seeds or soil.	1994	AU9536102-A; FI9404557-A; JP10506288-W; KR97706385-A; NZ293626-A; US5968504-A; EP792348-B1
	New strains of Nectria pityrodes for use as bio-fungicides - partic. for control of Fusarium; also new method for selecting fungicidal microorganisms.	1994	FI9400463-A; AU9515386-A; NO9603178-A; CZ9602190-A3; SK9600973-A3; JP9508274-W; KR97700761-A; NZ278907-A; US5811090-A; BR9507052-A; MX9602967-A1; CN1144534-A; RU2154381-C2; HU220838-B1; EP742816-B1; DE69528753-E; ES2185694-T3
GIST-BROCADES BV; GIST-BROCADES NV; DSM NV	Conc. stable aq. suspensions of polyene fungicides, e g natamycin - by addn of thickener and pH control, used for immersion or coating of food, feed or agricultural prod..	1996	EP678241-A; EP678241-A1; AU9516355-A; JP7285801-A; BR9501517-A; CA2146793-A; ZA9502979-A; NZ270906-A; US5552151-A; AU688856-B; EP678241-B1; DE69514403-E; ES2143586-T3; MX204361-B

Depositante	Título da Patente	Ano de Prioridade	Número da Patente
GIST-BROCADES BV; DSM NV; BEUDEKER R F	Fungicidal composition - comprising polyene macrolide antibiotic and fungal cell wall degrading enzyme, useful in, e.g. crop protection.	1994	EP906020-A; AU9732573-A; EP906020-A1; EP906020-B1; US2002031504-A1; DE69710328-E; ES2172795-T3; US2003026797-A1
NOVARTIS AG; NOVARTIS-ERFINDUNGEN VERW GES MBH; SYNGENTA PARTICIPATIONS AG; NUNINGER C; WEISS M; LEADBEATER A J	Identifying possible fungicides - from their ability to inhibit protein kinase and the identified inhibitors, useful in plant protection.	1996	EP904403-A; ZA9704450-A; AU9729550-A; EP904403-A1; JP2000511415-W; EP904403-B1; DE69710455-E; US6399319-B1
NOVARTIS AG; NOVARTIS-ERFINDUNGEN VERWALTUNGS GMBH; SYNGENTA PARTICIPATIONS AG; SYNGENTA CROP PROTECTION INC	Fungicidal mixture for protecting crops, comprises (R)-metalaxyl and second fungicidal component.	1998	EP1104990-A; EP1256277-A; EP1402777-A; AU9958587-A; EP1104990-A2; BR9913459-A; US2001046492-A1; JP2002524396-W; EP1256277-A1; MX2001002307-A1; EP1402777-A1; EP1256277-B1; DE69919762-E; EP1104990-B1
RHONE POULENC AGROCHIMIE; AVENTIS CROPSCIENCE SA; DUVERT P; BAYER CROPSCIENCE SA	Synergistic fungicidal compsns., useful in controlling phytopathogenic fungi in crops or lawns - comprise strobilurin analogue and iprodione, procymidone or vinchlozoline.	2000	FR2739529-A1; AU9672192-A; CN1198656-A; BR9611213-A; JP11514993-W; MX9802657-A1; NZ319631-A; KR99064025-A; IL123919-A; US2003027720-A1; EP855859-B1; DE69626657-E; ES2188791-T3
RHONE-POULENC AGROCHIMIE	Pre-germinated rice seed which can be sown by plane - comprises plant growth regulator e.g. gibberellic acid, and optionally phyto-protection product e.g. an insecticide, fungicide, micronutrient or macro-nutrient.	1995	AU9724818-A; PT102014-A; US2001004460-A1

Anexo:

Patentes reincidentes em diferentes temas e/ou termos

Anexo do Volume II: Patentes reincidentes em diferentes temas e/ou termos

Patentes reincidentes entre temas distintos:

TEMA		Nº da Patente	Título da Patente
Bioindústria	**Bioeconomia**	US2002086366-A1	Novel isolated DNA molecule useful within DNA constructs for producing polypeptides of economical importance including industrial enzymes and pharmaceutical proteins, in cultured Pichia methanolica cells.
		AU200071038-A; EP1210412-A1; JP2003509024-W	New transcription promoter and terminator sequences from Pichia methanolica, useful within DNA constructs for producing proteins of economic importance, e.g. industrial enzymes, proteins for research or pharmaceutical proteins.
Bioindústria	**Bioinformática**	JP2004147640-A; AU2003235071-A1; EP1477910-A1	Apparatus and method for managing gene expression data, particularly expression images and in situ hybridization studies, comprehensively applicable in medicine, food industry, cosmetics and bioinformatics.
Bioindústria	**Biorremediação**	AU9953479-A; EP1104459-A1; JP2002522072-W; US2003215859-A1	New isolated polypeptides having monooxygenase activity, useful for e.g. producing industrial chemicals, improving pharmaceutical production, bioremediation or producing herbicide resistant plants.
		AU200011339-A; US2003022335-A1	Novel naphthalene dioxygenase mutant having a specific amino acid substitution for preparing chiral diols for use in the polymer, resin, pharmaceutical or rubber industry and for carrying out bioremediation.
		JP2001327955-A	Purification of contaminated soil useful in agrochemical or industrial contaminated fields, comprises peroxides e.g. hydrogen peroxide or sodium peroxide as oxygen generating substance for bioremediation process by aerobic bacteria.
		AU200077208-A	Radiation resistant bacteria engineered to detoxify at least one toxin can be used at industrial waste sites contaminated with radioactivity for bioremediation.
		ZA9901007-A; US5994120-A; AU9926547-A	Bioremediation of organic hazardous substance from industrial sites and water supplies.

Patentes reincidentes entre temas e termos:

TEMA	TERMO (TEMA)	Nº da Patente	Título da Patente
Biodiversidade / Bioprospecção	**Mercado de Produtos da Floresta (Biodiversidade / Bioprospecção)**	DE10160179-A1	Method for remote sensing of morphologically and structurally complex objects in an object space, particularly for acquisition of surface data for agricultural and forestry terrain for evaluation of biodiversity data.
Bioeconomia	**Engenharia Genética (Programa de Descobertas)**	CN1524955-A	Construction of transgenic economic seaweeds by genetic engineering, useful in producing e.g. laver, kelp, agar-agar and other seaweeds in large quantities for extracting gel, alginic acid and other value-added products.
	Microorganismos (Biorremediação)	AU200166972-A; US6534286-B1	New isolated nucleic acid encoding a signal peptide for efficient and economical secreted expression of a protein of interest in a eukaryotic cell, widely used in pharmaceutical, food and chemical industries.
Bioindústria	**Biodiversidade Marinha (Biodiversidade / Bioprospecção)**	EP1009858-A1; JP2002505590-W; US2003215798-A1; AU200235649-A	High throughput screening of prokaryotic genomic DNA for novel enzymes - enables identification of enzymes from uncultured micro-organisms derived from environmental samples, useful industrially as catalysts.
Bioindústria & Biorremediação	**Meio Ambiente (Biorremediação) & Microorganismos (Biorremediação)**	JP2004097907-A	Increasing efficiency of bioremediation in contaminated industrial liquid waste, by promoting purification function of microorganisms, applying pressure suitable for microorganisms in fluid and setting environment.
Bioindústria	**Clonagem (Programa de Descobertas)**	BR200014793-A	Genetic transformation system is for industrial yeasts or for laboratory lineages sensitive to L-canavanine and comprises yeast cloning vector denominated as Y1pC, formed by double circular DNA film.

TEMA	TERMO (TEMA)	Nº da Patente	Título da Patente
Bioindústria	**Clonagem (Programa de Descobertas)**	JP2003144164-A	Recombinant self-cloning industrial use yeast produced using selective removal type plasmid, comprising promoter having expression regulation inserted/substituted for promoter's upstream region in specific yeast gene.
		EP862638-A1; JP11514527-W; US6048694-A; CA2234876-C	Positive selection for transformed Gram positive bacteria, especially Bacillus - useful for cloning heterologous genes encoding e.g. industrial enzymes, immunoglobulin(s), etc..
Bioindústria	**Engenharia Genética (Programa de Descobertas)**	JP2002101869-A	Dehydration stress protective agent for use in genetic engineering, foodstuff industry and pharmaceutical industry for e.g. storing microorganisms, comprises sericin as an active ingredient.
Bioindústria	**Nanobiotecnologia (Programa de Descobertas)**	JP2004267097-A	Micro reactor for use in chemical industry, has nickel complex supplied to surface of micro channel in substrate for detachedly bonding enzyme molecule on micro channel surface.
Bioindústria	**Normas de Qualidade (Segurança Biológica)**	EP784095-A3; NZ314034-A	Enhanced trehalose production in trehalase-expressing plant cells - by culturing the cells in the presence of a trehalase inhibitor, useful in improving quality of crops and providing trehalose for industry.
		US5641631-A	Detecting and measuring ribosomal nucleic acid in sample of several non-viral organisms - by hybridisation with at least two nucleic acid probes specific for a taxon, used e.g. to detect bacteria and determine their antimicrobial sensitivity.
		US6069303-A	Seeds of novel inbred corn line, QH111 useful for producing hybrid corn plants with improved resistance to insects and bacterial, viral or fungal diseases, superior agronomic qualities and industrial uses.
Bioindústria	**Nutracêuticos (Integração: Alimentação, Nutrição e Saúde)**	AU200119027-A; BR200016032-A; EP1233985-A1; US2003004315-A1; JP2003514919-W; CN1402736-A; NZ519878-A	A collagen product extracted from the skin of cold water fish in paste form, useful as a fining agent for the brewing and wine industries, or as a foodstuff, medicament, nutraceutical or cosmetic.

TEMA	TERMO (TEMA)	Nº da Patente	Título da Patente
		US2001037513-A1; AU200127664-A; EP1254210-A2; JP2003518936-W; CN1461339-A	Cloning an animal by nuclear transfer comprising the insertion of a somatic cell which has undergone 5 cell culture passages into an enucleated oocyte.
		EP1411060-A1; KR2004026658-A; AU2002355232-A1; JP2003515546-X	Industrial production of dipeptides with use of L-amino acid amide hydrolase by culturing with microorganisms or processed microbial cells, for application in drugs and functional foods.
		EP1411062-A1; US2004137558-A1; AU2002355233-A1; JP2003515548-X	Industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.
		EP1411116-A1; AU2002355234-A1; JP2003515658-X	Peptide synthase and encoded gene for industrial production of dipeptides from amino acid esters and amino acids by culturing microorganism or processed microbial cells, for application in and functional foods.
Bioindústria	**Produção de Vacinas (Integração: Alimentação, Nutrição e Saúde)**	AU2003217325-A1; US2004203134-A1	Accelerating growth of microorganisms in industrial processes, useful e.g. in coal gasification or vaccine production, by adding enzymatic protein hydrolyzate.
Bioindústria	**Proteômica (Programa de Descobertas)**	AU200143269-A; EP1272768-A2; US2004053403-A1	Microanalysis chip used in pharmaceutical industry for, e.g., proteomic studies, comprises body defining transfer-separation channel including channel bottom with bottom opening.
Bioindústria	**Sistemas Efetivos de Monitoramento (Defesa Agropecuária)**	DE10034645-A1	Monitoring and control process for biological sewage plant, useful for treating sewage of varying composition from industrial, agricultural, biological or communal source, uses neuronal network computer to generate control signals.
Bioindústria	***Steem Cells* (Programa de Descobertas)**	US2003073234-A1	Establishing a clonal embryonic stem cell line capable of sustaining a phenotype of normal embryonic stem cells after at least eight months of in vitro culturing, useful for human biomedical, industrial or scientific application.

TEMA	TERMO (TEMA)	Nº da Patente	Título da Patente
Bioinformática	**Aplicação para Genomas, proteomas e biodiversidade. (Bioinformática) & Proteômica (Programa de Descobertas)**	US2003177143-A1	Modular bioinformatics platform for processing biological data, comprises a target identification module for receiving genomic search results and target validation module for receiving proteomic search results.
Bioprodutos	**Mercado de Produtos da Floresta (Biodiversidade / Bioprospecção)**	AU200220284-A; EP1346071-A2; US2004038354-A1	Production of bioproducts involves establishing an environment under controlled conditions where microorganisms oxidize slurry containing metal sulfide minerals, and separating and recovering bioproducts from the slurry.
Biorremediação	**Meio Ambiente (Biorremediação)**	JP2004016130-A	New nucleic acid encoding a polypeptide having an apoplasma transportation signal and an environmental pollutant binding region, useful for bioremediation.
		JP2004041153-A	Novel marine luminescent bacteria specified by accession numbers, e.g. FERM P-18887 and FERM P-18888, comprise ammonia decomposition property, useful for bioremediation of polluted marine environment.
		US6503746-B1	Novel pure Paenibacillus validus bacterial strain that degrades polyaromatic hydrocarbons e.g. naphthalene, phenanthrene or biphenyl, useful for bioremediation of environments contaminated with polyaromatic hydrocarbons.
Biorremediação	**Meio Ambiente (Biorremediação)**	US6617150-B1	Solid chemical composition for bioremediation of chemical contaminants in environmental media, e.g. oceans, has Leguminosac or Phacophyta plant fiber materials, Gossypium or Cannabacea plant fiber materials, and enzyme(s).
		US2004010820-A1; AU2003253624-A1	New viable plant expressing manganese peroxidase, useful for commercial production of manganese peroxidase for papermaking, waste treatment, bioremediation or treating environmental pollutants.

TEMA	TERMO (TEMA)	Nº da Patente	Título da Patente
Biorremediação	**Microorganismos (Biorremediação)**	GB2367302-B	Bio-plug for providing microorganism source used in bioremediation, comprises sleeve with closed ends and apertures for charging water and discharging microorganisms.
		JP2001340842-A	Microorganisms use method for purifying contaminated soil, involves embedding hard charcoal such as Bincho charcoal to soil, leading to microorganisms proliferation and bioremediation.
		JP2002065248-A	Bioremediation process for decontamination of soil, water or air involves contacting with microorganism which has ability to decompose organic contaminant, in presence of metallothionein, in internal decomposition system.
		JP2003340434-A	Removing contaminant using plant or microorganism, by removing contaminant present in soil by bioremediation, or phytoremediation, adding acid and dry ice to processing Sat to which cement type is added.
		KR2001073276-A	Pah decomposing microorganism for bioremediation of pah contamination in soil, its producing method and oil decomposing compositions containing the same.
		KR2003076142-A	Bioremediation of oil using hydrocarbon-degrading psychrotrophic microorganism rhodococcus sp. yhlt-2 kctc 10203bp strain, comprises isolating species from bio-membrane and culturing the samples.
Biorremediação	**Microorganismos (Biorremediação)**	RU2193464-C1	Bioremediation of soils and grounds contaminated with oil and petroleum products for use in biotechnology of environment protection, comprises using a solid-and-liquid phase bioreactor.
		US6258589-B1	Providing metabolizable chemical to microorganisms for bioremediation of contaminated sites in situ, by delivering solid phase particle which releases the chemical over extended period of time to microorganism in water.

TEMA	TERMO (TEMA)	Nº da Patente	Título da Patente
		AU200137112-A; US2004023362-A1	Microorganisms for bioremediation of soil, sediments contaminated with polycyclic aromatic hydrocarbons, include Stenotrophomonas maltophilia, Pseudomonas fluorescens, Burkholderia and Penicillium janthinellum.
		AU200161739-A; US2003134408-A1	Bioremediative microorganism for dechlorinating chlorinated biphenyls and for bioremediation, comprises a specific 16S ribosomal subunit nucleic acid sequence.
Biorremediação	**Proteômica (Programa de Descobertas)**	US2003219888-A1	Minicell-based bioremediation producing achromosomal and anucleate eukaryotic cells, useful for functional proteomics, and in treating and diagnosing viral, bacterial and parasitic infections, cancer and autoimmune diseases.
Integração: Alimentação, Nutrição e Saúde	**Nutracêuticos (Integração: Alimentação, Nutrição e Saúde)**	JP2000236839-A	Powder of calyx and green pepper for use as health food, nutritional supplement or as functional food stuffs.
		JP2000236840-A	Powder as health food, nutritional supplement, functional foodstuff and as raw material for drugs, comprises placenta partitioned from green pepper seed.
Segurança Biológica	**Normas Internacionais (Segurança Biológica)**	US2003070076-A1	Data transfer system for law enforcement agency, comprises two input terminals facilitating communication between entities having computing system which accepts standardized data and transferring it between entities.
	Qualidade da Segurança Biológica (Segurança Biológica)	FR2853496-A1	Continuous treatment plant for food products in controlled atmosphere and temperature has sealed outer structure delimiting at least two technical equipment chambers.

Patentes reincidentes entre temas:

TERMO (TEMA)		Nº da Patente	Título da Patente
Bioinseticidas (Sustentabilidade Ambiental)	**Biofungicidas (Sustentabilidade Ambiental)**	CA2432865-A1; AU2003204887-A1	Pack useful in device for applying liquid inoculant e.g. insecticide or fungicide to seeds comprises porous wall and contains particulate material containing microbes.
		DE19530894-A1	Wood preservative contg. plant extracts - with fungicidal and insecticidal activity.
		AU200037657-A; US2001022968-A1; NO200104653-A; EP1165751-A1; BR200009430-A; CZ200103239-A3; SK200101306-A3; KR2001112933-A; HU200200562-A2; CN1351652-A; JP2002539820-W; ZA200107386-A; MX2001009695-A1; NZ514040-A;	New Bacillus pumilus strain, useful as fungicide for plant protection and a metabolite for increasing insecticidal activity of Bacillus thuringiensis.
Bioinseticidas (Sustentabilidade Ambiental)	**Biofungicidas (Sustentabilidade Ambiental)**	DE10022989-A1; AU200167410-A; US2002055436-A1; EP1282353-A1; BR200110738-A; CN1431863-A; JP2003532652-W	Use of enveloped agrochemical, especially herbicide, safener, growth regulator, insecticide or fungicide, for suppression of antagonistic interactions in agrochemical mixtures.
		AU2001235881-A1	Mixture of bacteria concentrate and water or other solvent useful in improving biodegradability of agrochemical e.g. glyphosphate, molinate, herbicide, fungicide or insecticide in soil.
		AU9874767-A; NO9905462-A; EP981540-A1; BR9809282-A; CN1255143-A; SK9901490-A3; CZ9903757-A3; NZ500506-A; MX9910078-A1; JP2001507237-W; HU200004555-A2; KR2001012392-A; JP2003199558-A;	New Bacillus subtilis strain AQ713 and its metabolites - showing bactericidal, fungicidal and insecticidal activity, useful in plant protection.

TERMO (TEMA)		Nº da Patente	Título da Patente
		AU9724818-A; PT102014-A; US2001004460-A1; AU739143-B	Pre-germinated rice seed which can be sown by plane - comprises plant growth regulator e.g. gibberellic acid, and optionally phyto-protection product e.g. an insecticide, fungicide, micronutrient or macro-nutrient.
		AU200214060-A; BR200115298-A; ES2171131-B1; US2004116290-A1; EP1332676-B1; DE60104443-E	Synergistic biological pesticide formulation, having biostimulant, pest resistance inducing, fungicidal and insecticidal activity, comprising entomopathogenic nematodes, chitosan and weak acid.
		AU9714610-A; EP944315-A1; CN1244771-A; NZ336424-A; BR9612796-A; MX9904920-A1; US6232270-B1	Enhancing activity of agricultural active products - such as growth regulators, herbicides, fungicides or insecticides, using enhancer of spores, cultures or suspensions of Bacillus or soil bacteria.
Clonagem (Fertilidade e Reprodução Animal)	**Clonagem (Programa de Descobertas) & *Steem Cells (*Programa de Descobertas)**	CN1483817-A	Method for cloning human embryonic stem cell without animal component.
		JP2002176973-A	Novel mammalian pluripotent embryonic stem cell for cloning animals, is capable of proliferating continuously in undifferentiated condition, and expresses glycosylated SSEA-1 antigen and transcription factor Oct3/4.
Clonagem (Fertilidade e Reprodução Animal)	**Clonagem (Programa de Descobertas)**	CN1390943-A	Refractor 6-phosphoglucose isomerase gene, its encoded polypeptide and recombinant production, comprising cloning the gene from a thermophilic anaerobic bacterium, expressing in a microbe, animal or plant, and purification.
		CN1425764-A	In situ cancer cell cloning animal test research method.
		JP2000228929-A	Somatic cell cloning for transgenic animal production, involves introducing metaphase stage nucleus into fertilized anucleated sheep egg.
		JP2002125516-A	Cloning non-human animal especially pig, comprises transplanting somatic cell nucleus of a donor pig into enucleated ovum collected from recipient pig in the presence of embedding agents such as alginate.

TERMO (TEMA)		Nº da Patente	Título da Patente
		EP1127112-A2; JP2003523719-W; US6781030-B1	Methods for cloning and creating transgenic animals, useful for production of desired proteins comprises combining activated donor cell genome with activated enucleated oocyte.
		AU200075789-A; US6383813-B1; EP1254215-A1	Nucleus transfer array, useful for large scale animal cloning, comprises upper chamber for enucleation and lower chamber that holds nuclei for transfer.
		AU200129275-A; EP1248517-A2; US2003106082-A1; JP2003533976-W	Cloning animal involves dissociating blastomeres from embryos which are transferred to empty zonae, cultured to embryonic stage, transferring embryos to oviducts of surrogate females, and producing cloned animal.
Clonagem (Fertilidade e Reprodução Animal)	**Clonagem (Programa de Descobertas)**	AU200139273-A; IT1317859-B	Preplantation growth of mammalian oocytes suitable for embryonic development and use in farm animal cloning techniques, comprises selection of a Surrounded Nucleolus morphology oocyte population.
		AU200178204-A; US2003172394-A1	Cloning system for duplicating animals with desired carcass traits comprises two cycles where a donor of the first cycle is an adult fibroblast cell and the second is a fetal fibroblast obtained from a fetus from the first cloning.
		CN1379977-A; AU2002254839-A1; CN1503623-A	Constructing cloned mammalian embryo by nuclear transfer, applicable in breeding fine varieties of animals, preserving almost extinct animals and therapeutic cloning in treatment of human diseases.
		AU200183377-A; EP1311661-A2; US2004092016-A1	Inducing homologous recombination in bacterial and eukaryotic cells comprising target nucleic acid, for cloning and generating transgenic animals, comprises utilizing lambda recombinases and similar proteins.
		AU200215721-A; US2004064845-A1	Cloning animal with cell at G1-phase of cell cycle comprises culturing animal cells to confluence, introducing cells/genome of cells into enucleated oocyte to obtain reconstructed embryos and developing embryo to obtain animal.

TERMO (TEMA)		Nº da Patente	Título da Patente
		US2003217374-A1; AU2003235652-A1	Producing a non-human animal with a monoclonal or oligoclonal peripheral B cell or T cell receptor repertoire, useful for producing cells and antibodies for treating cancer or viral diseases, comprises cloning by nuclear transfer.
		US2004177395-A1	Transferring an immune response from a founder animal to a cloned mammal comprises immunizing a founder animal with an immunogen, cloning the founder animal, and obtaining lymphocytes from the immunized founder mammal.
		EP1325935-A2; DE10200327-A1	New copolymers are derived from N-vinyl-N'-desoxysaccharitol-urea and vinyl comonomer, used for optimizing the cloning capacity of stem cells, especially for transplantation into cancer patients.
Clonagem (Fertilidade e Reprodução Animal)	**Clonagem (Programa de Descobertas)**	AU200055972-A; EP1100884-A1; KR2001072339-A; JP2003501082-W	Hybrid yeast-bacteria cloning system, useful for cloning, manipulating and delivering large nucleic acids for a variety of genetic engineering purposes, e.g. in gene therapy or in vivo vaccination.
		FR2799099-A1; AU200076690-A; EP1215960-A2; BR200014451-A; CN1377226-A; ZA200202500-A; NZ518377-A	In vitro reconstitution of mammalian embryos, useful e.g. for producing transgenic animals or cloning, including proteolysis and swelling of donor diploid nucleus.
		AU2002234440-A1; US2004110292-A1	Producing porcine nuclear transfer embryos comprising electrofusion of enucleated recipient cell and donor cells to form couplets, useful for cloning animals, pigs in particular.
		NZ512869-A; EP1404866-A1; BR200211095-A; AU2002328046-A1	Bioassay for determining amount of active myostatin in animal, by amplifying and cloning promoter, transfecting vector, selecting, incubating, and washing myoblasts, preparing protein extracts, and performing gene assay.
		EP1003895-A2; DE19744768-A1; JP2001509375-W; DE19744768-C2	New cloning vector for producing adenoviral minimal viruses - useful for gene therapy or for preparation of virus banks and transgenic animals.
		EP1049372-A; AU9922377-A; BR9907193-A; EP1049372-A2; KR2001040370-A; CN1306390-A; JP2002500864-W; US2002019993-A1; NZ505728-A	Cloning animals by inserting nucleus from adult somatic cells into enucleated oocyte, particularly for producing transgenic animals.

TERMO (TEMA)		Nº da Patente	Título da Patente
Clonagem (Programa de Descobertas)	**Engenharia Genética (Programa de Descobertas)**	JP9191885-A	Nsp7524III restriction endonuclease and its gene - useful in genetic engineering methods, e.g. vector construction and cloning.
		AU2003271095-A1	Human artificial chromosome vectors comprising fragments of chromosomes 21 and 14, useful in producing specific proteins and in cloning and genetic engineering.
Clonagem (Programa de Descobertas)	***Steem Cells* (Programa de Descobertas)**	CN1122368-A	Cloning method of hemotopoietic stem cell, ancestor cell and megacaryocyte.
		CN1280187-A	Extracorporeal cloning of hematopoietic stem cell.
		CN1382694-A	Human testis development specific protein-17 encoding gene (NYD-SP17), useful for cloning a fusion protein which is useful for immunizing an animal to prepare mono or poly-clonal antibodies, and for preparing gene expression chips.
		US2003148329-A1; AU2002327730-A1	New isolated alpha-fetoprotein nucleic acid, useful for identifying hemopoietic stem cells or progenitors, cancers, markers for cell cloning and cloned cells, and for evaluating developmental stages in organs and organisms.
		US2002031829-A1; AU200183395-A; EP1309681-A2; JP2004512829-W	New collection of genomic DNA clones individually isolated and arrayed on a solid support matrix, useful for effecting gene targeted genetic engineering of embryonic stem cells in producing genetically engineered animals.
Genômica Funcional (Programa de Descobertas)	**Proteômica (Programa de Descobertas)**	US2004067497-A1	Assay for detecting post-translational modification of a target protein by a post-translational modifier polypeptide molecule, useful in functional genomics and proteomics, comprises using a reporter protein.
Normas de Qualidade (Defesa Agropecuária)	**Sistemas Efetivos de Monitoramento (Defesa Agropecuária)**	AU9965158-A	Preparation of device having predetermined pattern on a plurality of analyte-binding molecules, useful for clinical and veterinary diagnostic analyte analysis, forensic analysis, food quality monitoring, agricultural monitoring.
Nutracêuticos (Integração: Alimentação, Nutrição e Saúde)	**Fitomedicamentos (Programa de Descobertas)**	KR2003008080-A	Herbal medicine composition having excellent immunostimulating activity and functional food containing the same.
		KR2004010854-A	Manufacture method, various uses and extracts for the development of anti-constipation functional food materials from oriental herbal medicines.

TERMO (TEMA)		Nº da Patente	Título da Patente
Proteômica (Programa de Descobertas)	**Genômica Funcional (Programa de Descobertas)**	NO200201298-A; AU2003212720-A1	New naked nucleic acid-virion protein display complex useful in functional genomics, proteomics and in protein identification for the exploration of therapeutic drugs and new diagnostic procedures.
Vetores de Trasformação Gênica (Mudanças Climáticas Globais)	**Expresão Gênica e Ambiente (Mudanças Climáticas Globais)**	JP2004187618-A	Novel transgenic plant introduced with xylo glucanase gene and having increased cellulose content and growth rate, useful as e.g. timber, paper pulp.
		JP2003143988-A	New salt-tolerant transgenic plant of Eucalyptus genus comprising chromosomal DNA which comprises an introduced gene encoding choline oxidase.