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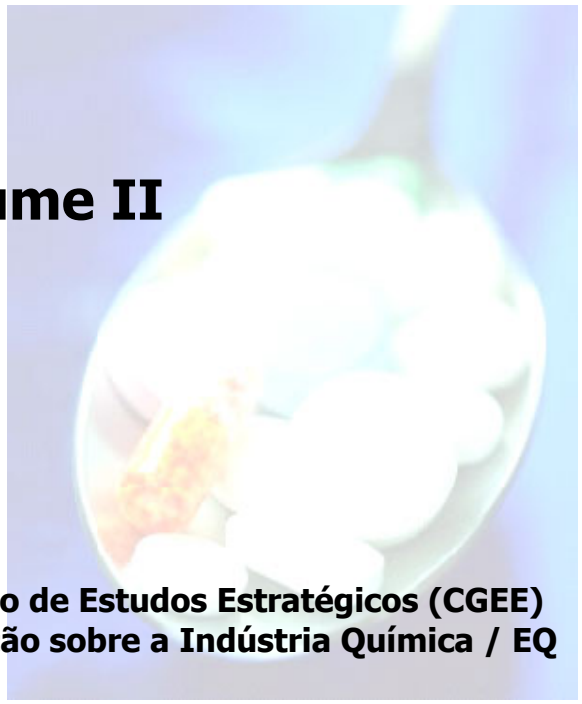
Ciência, Tecnologia e Inovação

SUBSÍDIOS À POLÍTICA PÚBLICA NA ÁREA DE SAÚDE - INOVAÇÃO

Mapas de conhecimento sobre tendências internacionais e competências nacionais em doenças crônicas, doenças infecto-contagiosas e doenças negligenciadas.



Volume II

Demandante: Centro de Gestão de Estudos Estratégicos (CGEE)
Executor: Sistema de Informação sobre a Indústria Química / EQ

Janeiro 2003

VOLUME II:

VISÃO INTERNACIONAL – PATENTES E MEDICAMENTOS

Demandante: Centro de Gestão de Estudos Estratégicos (CGEE)
Executor: Sistema de Informação sobre a Indústria Química - EQ/UFRJ

Janeiro
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Mapas do conhecimento sobre tendências internacionais e competências nacionais em doenças infecto-contagiosas e doenças negligenciadas

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PATENTES –PESQUISA BASE DADOS DERWENT WORLD PATENTS INDEX

A pesquisa foi feita com o objetivo de recuperar as patentes sobre as doenças foco do estudo depositadas nos anos de 2001 e 2002. Primeiramente a pesquisa foi feita com as palavras-chave referentes a cada doença estudada. Obtiveram-se então os resultados demonstrados na Tabela 1 a seguir:

Tabela 1: Número de patentes depositadas em 2001-2002 por doença

Doença	Número de Patentes
Doenças Crônicas	
Câncer	10.380
Cardiovascular	2.696
Diabetes	5.307
Doenças Infecto-contagiosas	1.724
Doenças Negligenciadas	
Malária	443
Leishmaniose	75
Tuberculose	577

✓ **Patentes com foco em Biotecnologia**

Em função da demanda do estudo ser o foco em biotecnologia, utilizou-se o recurso da Derwent a fim de otimizar os resultados referentes a biotecnologia a classificação de patente. As classificações foram:

- B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
- D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
- D22 (Sterilising, bandages, dressing and skin-protection agents)
- C06 (Biotechnology, plant genetics, veterinary vaccines)

Os resultados obtidos são demonstrados na Tabela 2:

Tabela 2: Número de patentes de Biotecnologia depositadas em 2001-2002 por doença

Doença	Número de Patentes
Doenças Crônicas	
Câncer	4.300
Cardiovascular	894
Diabetes	1.690
Doenças Infecto-contagiosas	745
Doenças negligenciadas	
Malária	169
Leishmaniose	35
Tuberculose	300

✓ **Sistematização das tendências de patenteamento conforme as categorias diagnóstico, tratamento, prevenção e suas correlações.**

Depois da recuperação das patentes, foi realizado o tratamento para que pudessem ser determinadas tendências de patenteamento relacionadas às patentes estudadas. Este tratamento é descrito nos itens a seguir de acordo com a doença estudada.

Os documentos recuperados de cada doença foram separados nas seguintes categorias:

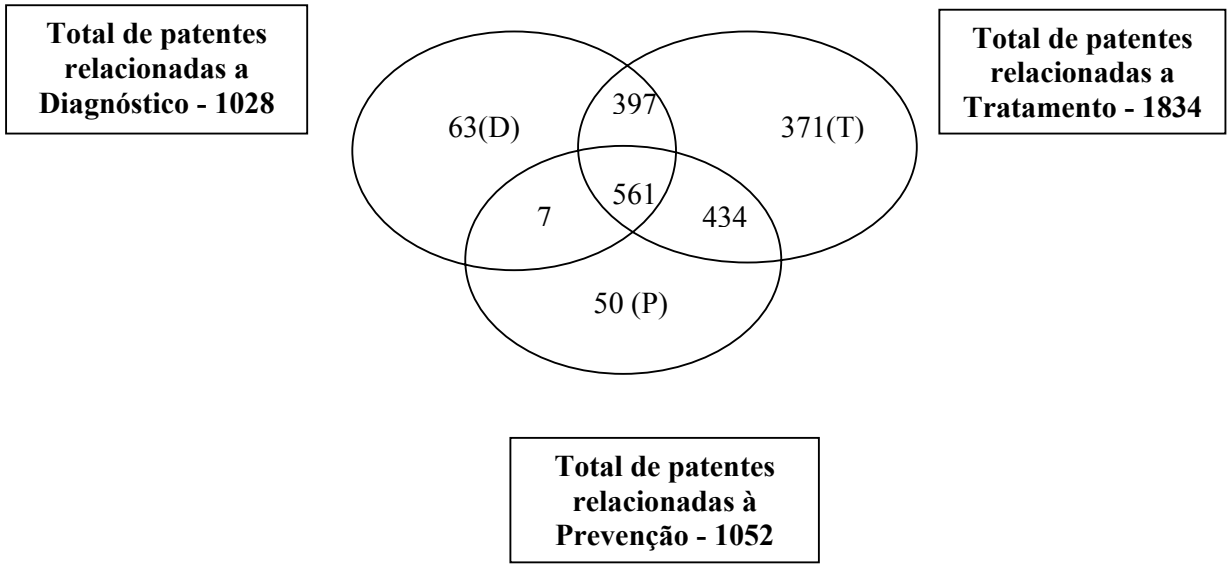
Diagnóstico (D), Prevenção(P), Tratamento(T)
Diagnóstico (D), Prevenção (P)
Diagnóstico (D), Tratamento (T)
Prevenção (P), Tratamento (T)
Diagnóstico (D)
Prevenção (P)
Tratamento (T)

DOENÇAS CRÔNICAS

I. DIABETES

Foram recuperados 5307 documentos de patentes que se referem a diabetes dentre os quais 1883 são patentes de biotecnologia cuja predominância é a categoria tratamento.

Distribuição das patentes biotecnológicas por categoria referentes à diabetes



CATEGORIAS

➢ DIAGNÓSTICO (D), TRATAMENTO (T) E PREVENÇÃO (P)

Esta categoria é a de maior número de patentes, 561, representando quase 30% do total de patentes em biotecnologia.

- **Tema das Patentes**

As principais classes, em número de patentes, são a B04 presente em 95% das patentes e a D16 presente em 92%, observando que neste rastreamento mais geral não estão detalhadas as diferentes correlações entre as classificações.

Derwent class	Frequência das Patentes por Classe
B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)	535
D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)	518
S03 (Scientific Instrumentation, photometry, calorimetry)	182
P14 (Animal care)	60

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do assinante	Assinantes
90	INCYTE GENOMICS INC
63	CURAGEN CORP
63	HUMAN GENOME SCI INC
47	MILLENNIUM PHARM INC
28	BAYER AG
24	TAKEDA CHEM IND LTD
22	AMGEN INC
18	INCYTE PHARM INC
15	ISIS PHARM INC
15	RUBEN S M
14	ROSEN C A
10	SMITHKLINE BEECHAM CORP

A tabela apresenta os assinantes com 10 ou mais patentes.

Os principais detentores de tecnologia são a Incyte Genomics com 16% do total de patentes, a Curagem e a Human Genome ambas com 11%.

- **Países**[1]

Nota-se a partir da tabela a seguir que 81% das patentes mais abrangentes ou seja, de tratamento diagnóstico e prevenção, foram depositadas no escritório mundial (WO) enquanto 12% foram depositadas nos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
457	WO
65	US
5	EP
4	JP
3	GB
2	DE

[1] No anexo 1 encontra-se a relação dos países e respectivos códigos

➢ DIAGNÓSTICO (D) E PREVENÇÃO (P)

Foram recuperadas 7 patentes cujo conteúdo abrange diagnóstico e prevenção.

- **Tema das Patentes**

Das 7 patentes, 85% estão classificadas como B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA) e 58% como S03 (Scientific Instrumentation, photometry, calorimetry), como pode ser observado a seguir.

Frequência de Patentes por Classe	Derwent class
6	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
4	S03 (Scientific Instrumentation, photometry, calorimetry)
2	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
1	B07 (General - tablets, dispensers, catheters)
1	J04 (Chemical/physical processes and apparatus including catalysis)
1	P14 (Animal care)
1	P31 (Diagnosis, surgery)
1	P34 (Sterilising, syringes, electrotherapy)

- **Assinantes das Patentes de Diagnóstico e Prevenção com as respectivas frequência**

Frequência	Assinantes
2	HOFFMANN LA ROCHE & CO AG F
2	ROCHE DIAGNOSTICS GMBH
1	AKZO NOVEL NV
1	GAA O
1	HILLER B
1	HOENES J
1	KNAPPE W
1	KOSCHORRECK B
1	MONELL CHEM SENSES CENT
1	NISSUI PHARM CO LTD
1	TAKAI I
1	UNIV BOSTON
1	WARNER LAMBERT CO
1	WITTMANN F
1	ZIMMER V

17 assinantes em 7 patentes

- **Países**

Duas patentes referentes a diagnóstico e prevenção de diabetes foram depositadas no escritório mundial (WO) enquanto 2 foram depositadas no Japão (JP), 1 nos Estados Unidos (US) e 2 na Europa.

Número de Patentes	País do primeiro depósito
2	JP
2	WO
2	EP
1	US

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

As patentes de diagnóstico e tratamento de diabetes, 397 representam 21% do total de documentos sobre a doença relacionados a biotecnologia.

- **Tema das Patentes**

As principais classes nas quais as patentes deste categoria estão inseridas são a B04 e a D16 as duas agregam mais de 90% das patentes do categoria.

Frequência das Patentes por Classe	Derwent class
384	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
360	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
128	S03 (Scientific Instrumentation, photometry, calorimetry)
16	P14 (Animal care)
12	C06 (Biotechnology, plant genetics, veterinary vaccines)
10	P31 (Diagnosis, surgery)
10	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Diagnóstico e Tratamento com as respectivas frequências**

Frequência	Assinantes
67	MILLENNIUM PHARM
39	SMITHKLINE BEECHAM
31	BAYER AG
20	MEYERS R
16	PHARMACIA & UPJOHN CO
13	MERCK PATENT GMBH
12	GENENTECH INC
11	ZYMOGENETICS INC

A tabela apresenta os assinantes com mais de 10 patentes.

A Millenium Pharm é a principal depositante pois é detentora de 17% das patentes de diabetes relacionadas a diagnostico e prevenção, já a SMITHKLINE BEECHAM possui aproximadamente 10% das patentes enquanto a Bayer detém aproximadamente 8%.

- **Países**

A grande maioria das patentes de diagnóstico e tratamento de diabetes foi depositada no escritório mundial (WO) 321 patentes das quais 234 são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
321	WO
29	US
15	GB
14	EP
2	CA
2	DE
2	JP
1	CN

➢ PREVENÇÃO(P) E TRATAMENTO(T)

Entre as 1890 patentes de diabetes com foco em biotecnologia 434 documentos são relativas à prevenção e tratamento da doença.

- **Tema das Patentes**

As principais classes nesta categoria são a B04 que engloba 92% das patentes recuperadas e D16 que engloba 60% das patentes.

Frequência das Patentes por Classe	Derwent class
398	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
233	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
86	D13 (Other foodstuffs and treatment)
47	S03 (Scientific Instrumentation, photometry, calorimetry)
20	P14 (Animal care)

- **Principais Assinantes das Patentes de Prevenção e Tratamento com as respectivas frequência**

Frequência	Assinantes
12	CURAGEN CORP
10	LILLY & CO ELI
9	WANG-Individual
6	NOVARTIS
6	PROTEOME SCI
5	CELLTECH R & D LTD
5	IMMUNEX
5	US DEPT HEALTH & HUMAN SERVICES

A tabela apresenta assinantes com 5 ou mais patentes

A Curagen Corp e Lilly & Co Eli são as empresas com maior número de depósito entre patentes de prevenção e tratamento de diabetes. Cada uma depositou aproximada mente 2,5% das patentes neste categoria.

- **Países**

As patentes mundiais (WO) representam 60% das patentes de diabetes sobre prevenção e tratamento de diabetes, aproximadamente 63% destas patentes mundiais são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
262	WO
57	JP
35	US
34	CN
11	EP
9	KR
3	DE
2	CA

Número de Patentes	País do primeiro depósito
1	BR
1	FR
1	GB
1	ZA

➢ DIAGNÓSTICO (D)

Foram recuperados 63 documentos de patentes que se referem exclusivamente a diagnóstico de diabetes, representando 3,3% do total de patentes de biotecnologia que citam a doença em questão.

- **Tema das Patentes**

Aproximadamente 97% dos documentos referentes a diagnóstico de diabetes são classificados como B04. As classes D16 e S03 englobam cada uma aproximadamente 60% da amostra.

Frequência das Patentes por Classe	Derwent class
61	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
37	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
37	S03 (Scientific Instrumentation, photometry, calorimetry)
4	P31 (Diagnosis, surgery)
3	B03 (Other heterocyclics)
1	C07 (Apparatus, formulation)
1	J04 (Chemical/physical processes and apparatus including catalysis)
1	K08 (Nucleonics, X-ray techniques)
1	P14 (Animal care)
1	P23 (Haberdashery, jewellery)
1	S05 (Electrical Medical Equipment)
1	V05 (Valves, Discharge Tubes and CRTs)

- **Principais Assinantes das Patentes de Diagnóstico respectivas frequência**

Frequência	Assinantes
3	ARKRAY INC
3	MATSUSHITA
2	KYOTO
2	MYRIAD GENETICS
2	SEKISUI CHEM
2	TOSOH

Assinantes com mais de uma patente

Nesta categoria diagnóstico para diabetes são poucas as parcerias entre os depositantes

- **Países**

Aproximadamente 50% das 63 patentes em biotecnologia que englobam diagnóstico de diabetes são patentes mundiais (WO).

Número de Patentes	País do primeiro depósito
31	WO
14	JP
7	US
5	EP
2	RU
1	CN
1	DE

➢ PREVENÇÃO (P)

As 50 patentes referentes a prevenção de diabetes representam 2,6% do total de patentes de biotecnologia que englobam a doença.

- **Tema das Patentes**

A classe mais significativa neste categoria de patentes é a B04 com 45 patentes.

Frequência das Patentes por Classe	Derwent class
45	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
21	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
5	A96 (Medical, dental, veterinary, cosmetic)
3	S03 (Scientific Instrumentation, photometry, calorimetry)
2	C06 (Biotechnology, plant genetics, veterinary vaccines)
2	A11 (Polysaccharides, natural rubber, other natural polymers)
1	B03 (Other heterocyclics)
1	B05 (Other organics - aromatics, aliphatic, organo- metallics.)
1	B07 (General - tablets, dispensers, catheters)
1	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	E13 (Heterocyclics)
1	P32 (Dentistry, bandages, veterinary, prosthesis)
1	P33 (Medical aids, oral administration)
1	P34 (Sterilising, syringes, electrotherapy)

- **Principais Assinantes das Patentes de Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
2	KOREA RES INST BIOSCIENCE & BIOTECHNOLOG
2	MATSUURA YAKUGAKU KK
2	QIAN Q

Apenas 3 depositaram mais de uma patente nos anos de 2001 e 2002, estes são a KOREA RES INST BIOSCIENCE & BIOTECHNOLOG a MATSUURA YAKUGAKU KK e um pesquisador individual denominado QIAN Q.

- **Países**

Aproximadamente 36% das patentes de prevenção são em sua maioria provenientes da China (CN). Outras 13 patentes foram depositadas primeiramente no escritório mundial (WO), e entre estas, 8 têm os Estados Unidos (US) como seu país de origem.

Uma patente nesta categoria foi depositada primeiramente no Brasil por um pesquisador chamado Correia Barbosa D.

Número de Patentes	País do primeiro depósito
18	CN
13	WO
6	JP
4	KR
4	US
1	BR
1	CZ
1	DE
1	MX

➢ TRATAMENTO (T)

Foram recuperadas 371 patentes de tratamento de diabetes. Este número de patentes representa 19,6% do total de patentes de diabetes relacionadas a biotecnologia

- **Tema das Patentes**

A maior parte das patentes de tratamento de diabetes é classificada como B04, ou seja, estão em 314 patentes das 371, da mesma forma a D16 está em 216 documentos.

Frequência das Patentes por Classe	Derwent class
314	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
216	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
38	S03 (Scientific Instrumentation, photometry, calorimetry)
25	A96 (Medical, dental, veterinary, cosmetic)
24	B05 (Other organics - aromatics, aliphatic, organo-metallics.)

- **Principais Assinantes das Patentes de Tratamento com as respectivas frequência**

Frequência	Assinantes
20	BODE GENE DEV CO LTD SHANGHAI
8	LILLY & CO ELI
7	GLAXO GROUP LTD
7	PHARMA PACIFIC
6	SMITHKLINE BEECHAM
5	ASTRAZENECA
5	MERCK & CO INC
5	ZYMOGENETICS

Assinantes com 5 ou mais patentes

Observa-se que a empresa BODE GENE detém a maioria das patentes de tratamento de diabetes sendo detentora de 5,3% do total de patentes neste contexto.

- **Países**

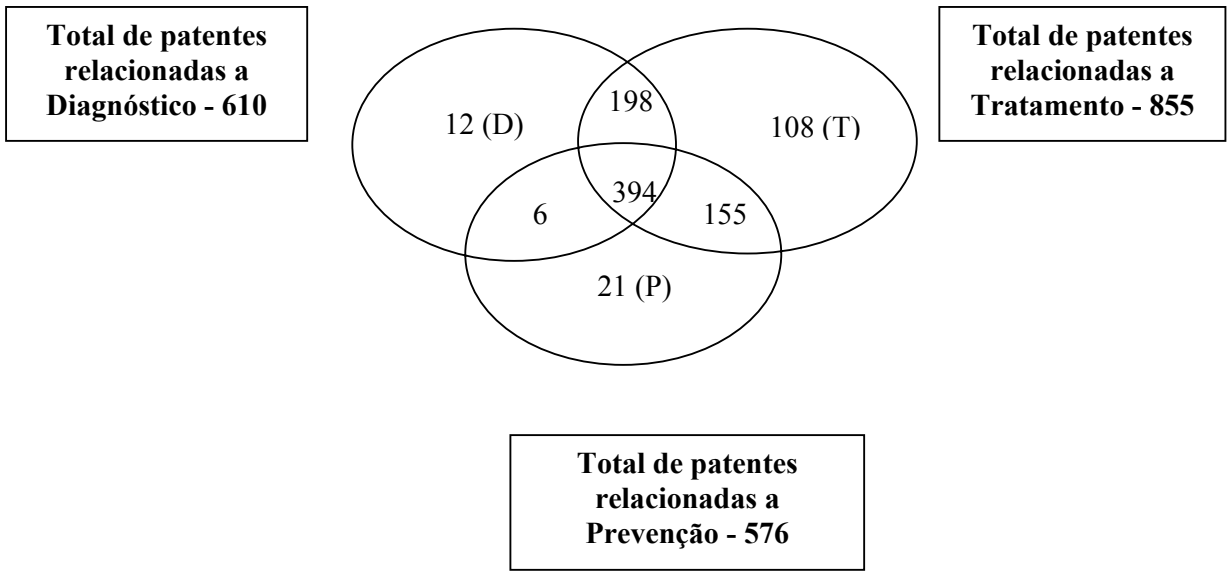
As patentes depositadas no escritório mundial (WO) representam aproximadamente 55% do total de patentes de tratamento de diabetes. Dentre estas 204 patentes (127) são provenientes dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
204	WO
46	US
34	CN
11	EP
10	DE
9	RU
8	JP
7	GB
3	FR
3	KR
1	AU
1	BR
1	CA
1	ES
1	RO
1	ZA

II. DOENÇAS CARDIOVASCULARES

O total de patentes recuperados foi de **918**, sendo que **97%** dessas patentes referem-se ao uso em **biotecnologia**, direcionadas 610 para diagnóstico, 576 para prevenção e 855 para tratamento.

Distribuição das patentes biotecnológicas por categoria referentes a doenças cardiovasculares



CATEGORIAS

- **DIAGNÓSTICO (D), TRATAMENTO (T) E PREVENÇÃO (P)**

Nesta categoria foram recuperadas 394 patentes de biotecnologia, sendo esta a líder das cardiovasculares representando aproximadamente 44% do total de patentes de biotecnologia que citam a doença em questão.

- **Tema das Patentes**

Nota-se que apenas 1 patente de diagnóstico, tratamento e prevenção não é classificada na B04 e aproximadamente 99% deste total está classificado como D16.

Frequência das Patentes por Classe	Derwent class
393	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
388	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
98	S03 (Scientific Instrumentation, photometry, calorimetry)
22	P14 (Animal care)
9	C06 (Biotechnology, plant genetics, veterinary vaccines)

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
149	HUMAN GENOME SCI INC
53	INCYTE GENOMICS INC
50	MILLENNIUM PHARM INC
29	RUBEN S M
20	BAYER AG

A tabela apresenta os assinantes com 20 ou mais patentes

A empresa Human Genome Sci.Inc foi a que mais depositou patentes, com aproximadamente 40% do total de patentes que citam ao mesmo tempo diagnóstico, tratamento e prevenção.

- **Países**[2]

Dentre as patentes recuperadas, 370 foram depositadas no escritório mundial (WO), representando 93% do total de documentos nesta categoria.

Número de Patentes	País do primeiro depósito
370	WO
21	US
2	EP
1	DE

➢ DIAGNÓSTICO (D) e PREVENÇÃO (P)

Foram recuperadas 6 patentes cujo conteúdo engloba o diagnóstico e prevenção de doenças cardiovasculares.

- **Tema das Patentes**

As classes que englobam o maior número de patentes nesta categoria são a A96, B04, D16, D22, P31.

Frequência das Patentes por Classe	Derwent class
3	A96 (Medical, dental, veterinary, cosmetic)
3	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
3	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
3	D22 (Sterilising, bandages, dressing and skin-protection agents)
3	P31 (Diagnosis, surgery)
2	B07 (General - tablets, dispensers, catheters)
2	S03 (Scientific Instrumentation, photometry, calorimetry)
1	A25 (Polyurethanes, polyethers)
1	M26 (Non-ferrous alloys including production and composition)
1	P32 (Dentistry, bandages, veterinary, prosthesis)
1	P34 (Sterilising, syringes, electrotherapy)

[2] No anexo 1 encontra-se a relação dos países e respectivos códigos

- **Principais Assinantes das Patentes de Diagnóstico e Prevenção com as respectivas frequência**

Do total de patentes recuperadas neste categoria, 4 foram depositadas por pesquisadores, uma foi depositada pela empresa Powderject Res Ltd e a outra pelo US Dept Health & Human Services.

- **Países**

Duas patentes foram depositadas primeiramente nos Estados Unidos (US) e 4 foram depositadas no escritório mundial (WO), onde a origem de tecnologia é dos Estados Unidos (2), Grã Bretanha (1) e da Austrália (1).

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

As patentes de diagnóstico e tratamento de doenças cardiovasculares representam 22% das patentes em biotecnologia que citam a doença somando 198 documentos.

- **Tema das Patentes**

As classes que englobam o maior número de patentes são a B04 e D16, pois as duas estão presentes em mais de 95% do total de patentes de diagnóstico e tratamento de doenças cardiovasculares.

Frequência das Patentes por Classe	Derwent class
197	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
190	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
71	S03 (Scientific Instrumentation, photometry, calorimetry)
13	P14 (Animal care)
8	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Diagnóstico e Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
54	MILLENNIUM PHARM INC
21	BAYER AG
14	MEYERS R
11	PFIZER INC
9	PHARMACIA & UPJOHN CO
6	CURTIS R A J
5	GENAISSANCE PHARM INC
5	SOLVAY PHARM BV
4	GENENTECH INC
4	GLUCKSMANN M A
4	HUMAN GENOME SCI INC
4	UNIV CALIFORNIA
4	SMITHKLINE BEECHAM PLC
4	ZYMOGENETICS INC

A tabela apresenta os assinantes com 4 ou mais patentes

A principal detentora das patentes referentes a tratamento e diagnóstico de doenças cardiovasculares é a empresa Millennium Pharm que detém aproximadamente 27% das patentes desta categoria.

- **Países**

84% das patentes de diagnóstico e tratamento de doenças cardiovasculares foram depositadas primeiramente no escritório mundial (WO) sendo que destas, 129 são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
166	WO
15	EP
14	US
1	DE
1	GB
1	JP

➢ PREVENÇÃO(P) E TRATAMENTO(T)

Foram recuperados 155 documentos de patentes cujo conteúdo engloba a prevenção e o tratamento de doenças cardiovasculares. Estes representam 22% do total de patentes em biotecnologia que fazem referência a doença.

- **Tema das Patentes**

A classe mais abrangente nesta categoria de patentes é a B04 que engloba aproximadamente 88% das patentes de prevenção e tratamento de doenças cardiovasculares.

Frequência das Patentes por Classe	Derwent class
136	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
70	D16 (Fermentation industry – including production of pharmaceuticals, vaccines and antibodies, cell and tissue culture and genetic engineering)
26	D13 (Other foodstuffs and treatment)
25	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
15	S03 (Scientific Instrumentation, photometry, calorimetry)
12	A96 (Medical, dental, veterinary, cosmetic)
8	D22 (Sterilising, bandages, dressing and skin-protection agents)

- **Principais Assinantes das Patentes de Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
4	IMMUNEX CORP
3	CURAGEN CORP
3	MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
3	PFIZER PROD INC
3	SIGMA-TAU HEALTHSCIENCE SPA
3	SMITHKLINE BEECHAM
3	US DEPT HEALTH & HUMAN SERVICES

A tabela mostra os assinantes com 3 ou mais patentes

Observa-se que não há concentração de patentes entre os detentores de tecnologia. Nesta categoria somente a Immunex Corp apresenta 4 patentes.

- **Países**

Aproximadamente 60% das patentes deste categoria são patentes depositadas primeiramente no escritório mundial (WO), destas 55 são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
92	WO
28	CN
14	US
7	EP
6	DE
2	FR
2	GB
2	RU
1	BE
1	CA

➢ DIAGNÓSTICO (D)

Foram recuperados 12 documentos de patentes que tratam exclusivamente de diagnóstico de doenças cardiovasculares representando aproximadamente 7,7 % do total de patentes em biotecnologia que citam a doença.

- **Tema das Patentes**

Todas as patentes desta categoria estão classificadas na B04 e apenas uma patente não é classificada na D16.

Frequência das Patentes por Classe	Derwent class
12	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
11	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
4	S03 (Scientific Instrumentation, photometry, calorimetry)
1	B07 (General - tablets, dispensers, catheters)
1	P73 (Layered products)

- **Assinantes das Patentes de Diagnóstico**

A distribuição das patentes nesta categoria é muito homogênea pois nenhum depositante tem mais que 1 patente. Estes são:

- Aventis Pharma Sa
- Dna Sci Inc
- Du Pont Pharm Co
- Epigenomics Ag
- Gen Atomics
- Genetics Inst Inc
- Huang W
- Inserm Inst Nat Sante & Rech Medicale
- Kriz R
- Lorenz M
- Millennium Pharm Inc
- Nguyen T D
- Orchid Biosciences Inc
- Pe Corp Ny
- Polansky J R
- Shaw G D
- Shukla A
- Univ Monash
- Weich N

- **Países**

Apenas 1 dos documentos que citam diagnóstico de doenças cardiovasculares foi depositado primeiramente nos Estados Unidos (US), os outros 11 foram depositados no escritório mundial (WO).

➢ PREVENÇÃO (P)

Foram recuperados 21 documentos de patente que fazem referência a prevenção de doenças cardiovasculares. Este número de patentes representa aproximadamente 2,4% do total das patentes em biotecnologia que tratam das doenças cardiovasculares.

- **Tema das Patentes**

A classe que abrange o maior número de documentos é a B04 que engloba aproximadamente 81% do total de documentos neste categoria.

Frequência das Patentes por Classe	Derwent class
17	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
5	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
3	A96 (Medical, dental, veterinary, cosmetic)
3	P34 (Sterilising, syringes, electrotherapy)
3	D21 (Preparations for dental or toilet purposes)
2	D22 (Sterilising, bandages, dressing and skin- protection agents)
1	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
1	B07 (General - tablets, dispensers, catheters)
1	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	P27 (Shop, household, furnishings)
1	P33 (Medical aids, oral administration)

- **Assinantes das Patentes de Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
1	ALCON UNIVERSAL LTD
1	BIOGAL GYOGYSZERGYAR
1	CHA X
1	CHEN Z
1	DERVIEUX D
1	GUI C
1	HE Z
1	HU X
1	HUANG Q
1	JIANG D
1	LIU H
1	LIUZHOU PHARM PLANT
1	NEWMARK T
1	PULMUWON CO LTD
1	ROST OBSTETRICS & PAEDIATRICS RES INST
1	SCHULICK P
1	ST JUDE MEDICAL INC
1	TANG S
1	TENTORIUM CO LTD
1	TEVA PHARM USA INC
1	TISSUEMED LTD
1	UNIV SHENYANG PHARMACY
1	XU Q

Mais da metade das patentes neste categoria, ou seja, 12 documentos foram depositados por pesquisadores, enquanto os 9 documentos restantes foram depositados por instituições ou empresas.

- **Países**

A grande maioria das patentes de prevenção de doenças cardiovasculares recuperadas neste estudo foi depositada primeiramente na China (CN) como pode ser observado a seguir.

Número de Patentes	País do primeiro depósito
12	CN
5	WO
2	RU
1	KR
1	US

➢ TRATAMENTO (T)

O total (108) de documentos de patentes que citam o tratamento de doenças cardiovasculares representa 12% do total de patentes em biotecnologia que se referem à doença em questão.

- **Tema das Patentes**

Entre as 108 patentes de tratamento de doenças cardiovasculares recuperadas, 101 estão classificadas como B04, ou seja 93,5% das patentes neste categoria pertencem a classe em questão.

Frequência das Patentes por Classe	Derwent class
101	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
76	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
15	S03 (Scientific Instrumentation, photometry, calorimetry)
7	B02 (Fused ring heterocyclics)
7	C06 (Biotechnology, plant genetics, veterinary vaccines)
7	P14 (Animal care)
6	D22 (Sterilising, bandages, dressing and skin-protection agents)
5	P34 (Sterilising, syringes, electrotherapy)

- **Principais Assinantes das Patentes de Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
3	GLAXO GROUP LTD
3	MILLENNIUM PHARM INC
3	SMITHKLINE BEECHAM CORP
2	AVIGEN INC
2	COUSENS D J
2	FOORD S M
2	HARVARD COLLEGE
2	INTROGENE BV
2	MERCK PATENT GMBH
2	SANGAMO BIOSCIENCES INC
2	SIERRA SCI INC
2	SMITHKLINE BEECHAM PLC
2	UNIV LELAND STANFORD JUNIOR
2	UNIV UTAH RES FOUND
2	VOLPE F

A tabela apresenta os assinantes com mais de 1 patente

Foram identificados 196 depositantes para as patentes de tratamento de doenças cardiovasculares, dentre os quais destacam –se a Glaxo, a Millennium e a SmithKline Beecham cada uma com 3 patentes depositadas nos anos da pesquisa.

- **Países**

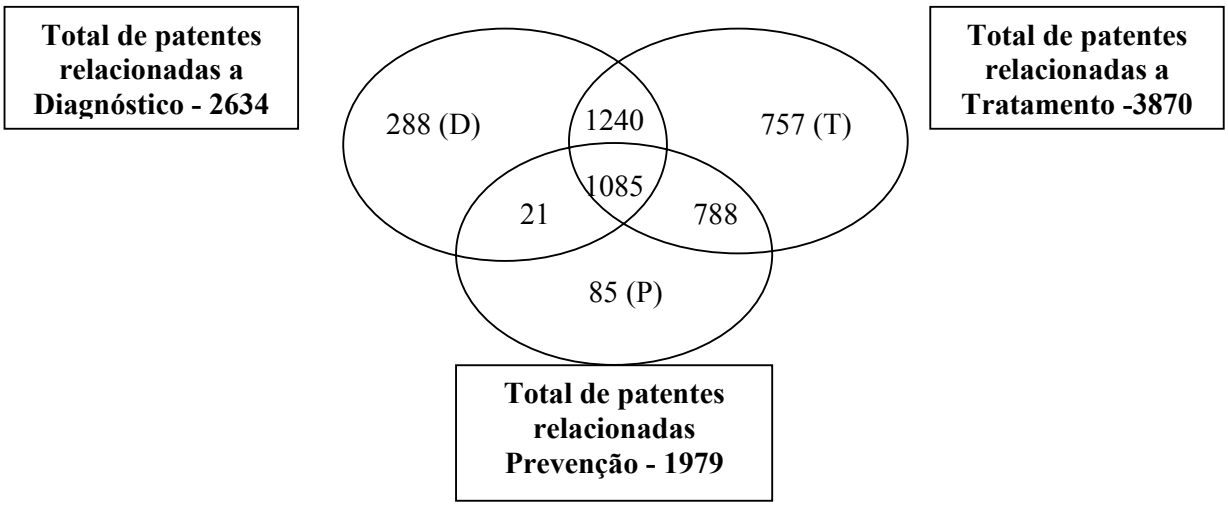
Nota-se que aproximadamente 67% do total de patentes neste categoria foi depositada primeiramente no escritório mundial (WO). Dentre estas 46 são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
72	WO
16	US
5	CN
4	EP
4	GB
4	RU
2	DE
1	KR

III. CÂNCER

Foram encontrados 10380 documentos de patentes que fazem referência a esta doença crônica. Deste total foram selecionados os documentos referentes a biotecnologia obtendo-se então 4282 documentos de patentes dentre os quais 61,5% referem-se a diagnóstico, 90,4% para tratamento e 46% para prevenção de câncer.

Distribuição das patentes biotecnológicas por categoria referentes a câncer



CATEGORIAS

- **DIAGNÓSTICO (D), TRATAMENTO (T) E PREVENÇÃO (P)**

Esta categoria é a predominante mostrando que as patentes direcionadas a biotecnologia nesta doença são abrangentes (1085).

- **Tema das Patentes**

As classificações que abrangem o maior número de documentos de patentes são a B04 e a D16. Estas classificações estão presentes em mais de 90% das patentes da categoria.

Frequência das Patentes por Classe	Derwent class
1060	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
1028	D16 (Fermentation industry – including production of pharmaceuticals, vaccines and antibodies, cell and tissue culture and genetic engineering)
343	S03 (Scientific Instrumentation, photometry, calorimetry)
90	P14 (Animal care)
25	C06 (Biotechnology, plant genetics, veterinary vaccines)
15	A96 (Medical, dental, veterinary, cosmetic)
11	P31 (Diagnosis, surgery)
8	S05 (Electrical Medical Equipment)

Nesta tabela não estão incluídas as correlações entre as classes

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
140	INCYTE GENOMICS INC
127	HUMAN GENOME SCI INC
85	CURAGEN CORP
74	MILLENNIUM PHARM INC
54	BAYER AG
33	TAKEDA CHEM IND LTD
30	RUBEN S M
29	CORIXA CORP
29	INCYTE PHARM INC
24	ROSEN C A
22	AMGEN INC
22	ISIS PHARM INC
20	HYSEQ INC

A tabela apresenta os assinantes com 20 ou mais patentes

As empresas que se destacam em número de patentes de tratamento, diagnóstico e prevenção de câncer sã ao Incyte Genomics e a Human Genome. Cada uma destas detém mais de 10% das patentes desta categoria.

- **Países**[3]

Aproximadamente 80% das patentes de tratamento diagnóstico e prevenção de câncer recuperadas, foram depositadas no escritório mundial (WO), sendo que destas 721 são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
866	WO
161	US
10	EP
7	FR
5	GB
4	JP
2	CA
1	CN
1	DE

[3] No anexo 1 encontra-se a relação dos países e respectivos códigos

➢ DIAGNÓSTICO (D) e PREVENÇÃO (P)

As patentes que citam diagnóstico e prevenção de câncer representam apenas 0,5% das patentes de biotecnologia que fazem referência a doença. Estas somam apenas 21 patentes.

- **Tema das Patentes**

Todas as patentes deste categoria estão classificadas como B04 e apenas 3 patentes não estão classificadas como D16.

Frequência das Patentes por Classe	Derwent class
21	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
18	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
5	S03 (Scientific Instrumentation, photometry, calorimetry)
2	P14 (Animal care)
1	C06 (Biotechnology, plant genetics, veterinary vaccines)
1	P31 (Diagnosis, surgery)
1	S05 (Electrical Medical Equipment)

- **Assinantes das Patentes de Diagnóstico e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
3	SEQUENOM INC
1	AMERICAN HOME PROD CORP
1	AMGEN INC
1	BENZER S
1	BIO-RAD LAB INC
1	BIOLINK PARTNERS INC
1	BONINI N M
1	CALYDON INC
1	EBARA CORP
1	EPICYTE PHARM INC
1	EPIDAUROS BIOTECHNOLOGIE AG
1	FUKUNAGA A
1	GH KIRIKAGE GAKUEN
1	HAMAGUCHI H
1	HAMAMATSU PHOTONICS KK
1	HIROSE M
1	HOYA CORP
1	KODA E
1	LEISERSON W M
1	LINK TECHNOLOGY INC
1	NAGASAWA H
1	OLYMPUS OPTICAL CO LTD
1	SAMYANG GENEX CORP
1	SHONGHAI INST TUMOR
1	TAKEDA CHEM IND LTD
1	US DEPT HEALTH & HUMAN SERVICES
1	YAMAMOTO

A tabela mostra todos os 28 depositantes

Foram identificados 28 depositantes de patentes de diagnóstico e prevenção de câncer, dentre os quais se destaca a empresa Sequenom Inc com 3 patentes, ou seja aproximadamente 15% do total de patentes deste categoria.

- **Países**

Dentre os seis escritórios onde as patentes desta categoria foram depositadas pela primeira vez destacam-se o escritório mundial (WO) com oito patentes e o norte americano (US) com 7 patentes.

Número de Patentes	País do primeiro depósito
8	WO
7	US
3	JP
1	CN
1	EP
1	KR

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

Foram levantadas 1240 patentes de biotecnologia cujo conteúdo engloba diagnóstico e tratamento de câncer. Este resultado representa aproximadamente 29% de todas as patentes em biotecnologia que fazem referência a doença.

- **Tema das Patentes**

As classes que abrangem o maior número de patentes são a B04 e a D16. Mais de 90% das patentes deste categoria estão inseridas nestas duas classificações.

Frequência das Patentes por Classe	Derwent class
1219	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
1169	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
369	S03 (Scientific Instrumentation, photometry, calorimetry)
48	P14 (Animal care)
35	P31 (Diagnosis, surgery)
29	C06 (Biotechnology, plant genetics, veterinary vaccines)
28	A96 (Medical, dental, veterinary, cosmetic)
25	K08 (Nucleonics, X-ray techniques)
24	T01 (Digital Computers)
20	S05 (Electrical Medical Equipment)
18	P34 (Sterilising, syringes, electrotherapy)
13	B02 (Fused ring heterocyclics)
11	B05 (Other organics - aromatics, aliphatic, organo- metallics.)
10	B07 (General - tablets, dispensers, catheters)

- **Principais Assinantes das Patentes de Diagnóstico e Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
93	MILLENNIUM PHARM INC
91	SHANGHAI BIOWINDOW GENE DEV INC
89	BODE GENE DEV CO LTD SHANGHAI
65	BIOWINDOW GENE DEV INC SHANGHAI
61	BAYER AG
56	SMITHKLINE BEECHAM
36	MERCK PATENT GMBH
26	EPIGENOMICS AG
24	DIADEXUS INC
24	GENAISSANCE PHARM INC
22	INCYTE GENOMICS INC
22	MEYERS R
20	HYSEQ INC
20	ZYMO

A tabela apresenta os assinantes com 20 ou mais patentes

As empresas com maior número de patentes neste categoria são Millennium Pharm Inc, Shanghai Biowindow Gene Dev Inc e a Bode Gene Dev Co Ltd. Cada uma destas empresas detém mais de 7% do total de patentes em biotecnologia que fazem referência ao diagnóstico e tratamento de câncer

- **Países**

Mais de 80% das patentes deste conjunto foram depositadas primeiramente no escritório mundial (WO) sendo que destes, 617 são originários dos Estados Unidos (US) e 150 da China (CN).

Número de Patentes	País do primeiro depósito
994	WO
128	US
33	EP
19	GB
19	JP
11	CN
11	DE
4	CA
4	FR
1	AU
1	KR
1	MX
1	RO

➢ PREVENÇÃO(P) E TRATAMENTO(T)

O número de patentes recuperados neste categoria foi de 788 patentes, representando aproximadamente 18% do total de documentos em biotecnologia que esta categoria.

- **Tema das Patentes**

A classe mais abrangente entre os 788 documentos neste categoria é a B04 que engloba aproximadamente 92% das patentes recuperadas. A segunda classe mais abrangente é a D16.

Frequência das Patentes por Classe	Derwent class
724	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
511	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
106	D13 (Other foodstuffs and treatment)
102	S03 (Scientific Instrumentation, photometry, calorimetry)
48	A96 (Medical, dental, veterinary, cosmetic)
32	C06 (Biotechnology, plant genetics, veterinary vaccines)
30	B05 (Other organics - aromatics, aliphatic, organo-metallics.)

- **Principais Assinantes das Patentes de Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
16	CURAGEN CORP
11	SMITHKLINE BEECHAM
10	HUMAN GENOME SCI INC
8	HYSEQ INC
8	MILLENNIUM PHARM INC
8	US DEPT HEALTH & HUMAN SERVICES

A tabela apresenta os assinantes com 8 ou mais patentes

A empresa que se destaca nesta categoria é a Curagen Corp com 2% do número de patentes de biotecnologia em tratamento e prevenção de câncer. Esta é uma empresa cujo *core-business* é genômica e se compromete a pesquisar novos medicamentos através da combinação de pricípios de engenharia com biologia e tecnologia de informação.

- **Países**

A grande maioria das patentes de prevenção e tratamento de câncer que referem-se a biotecnologia, ou seja 504 patentes, foram depositadas pela primeira vez no escritório mundial (WO). Destas, 304 são originárias dos Estados Unidos (US).

Número de Patentes	País do primeiro depósito
504	WO
78	CN
74	US
62	JP
21	EP

Número de Patentes	País do primeiro depósito
13	KR
5	DE
5	FR
3	CA
3	GB
1	NL
1	NO
1	RU

➢ DIAGNÓSTICO (D)

O número de patentes que citam exclusivamente diagnóstico de câncer, ou seja 288 documentos, representa aproximadamente 7% do total de patentes em biotecnologia que se referem à doença.

- **Tema das Patentes**

Apenas 5 das 288 patentes de diagnóstico de câncer não são calssificadas como B04. A segunda classe mais abrangente é a D16 estando presente em 83% das patentes neste categoria.

Frequência das Patentes por Classe	Derwent class
283	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
240	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
132	S03 (Scientific Instrumentation, photometry, calorimetry)
17	P31 (Diagnosis, surgery)
12	J04 (Chemical/physical processes and apparatus including catalysis)
10	K08 (Nucleonics, X-ray techniques)

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
6	FUJI PHOTO FILM CO LTD
6	UNIV CALIFORNIA
4	CORIXA CORP
4	KYOWA HAKKO KOGYO KK
4	UNIV TEXAS SYSTEM
4	US DEPT HEALTH & HUMAN SERVICES

A tabela apresenta os assinantes com 4 ou mais patentes

Não foram encontrados depositantes com mais de 10% do total de empresas do categoria, aqueles que se destacam são a Fuji Photo Film Co Ltd e a Universidade da Califórnia.

- **Países**

Nota-se que a grande maioria das patentes do categoria, ou seja, aproximadamente 62%, foram depositadas no escritório mundial (WO). Deste total, 95 originaram-se dos Estados Unidos (US) e 28 do Japão (JP).

Número de Patentes	País do primeiro depósito
178	WO
44	US
30	JP
11	EP
7	DE
6	KR
3	CN
3	GB
2	CA
1	CZ
1	FR
1	RU

➢ PREVENÇÃO (P)

O somatório das patentes que se referem à prevenção de câncer é de 85 o que equivale a apenas 2% do total de patentes em biotecnologia que tratam da doença.

- **Tema das Patentes**

88 % das patentes pertencentes a esta categoria estão classificadas como B04(77) e 43, ou seja 50%, também estão classificadas como D16

Frequência das Patentes por Classe	Derwent class
77	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
43	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
8	S03 (Scientific Instrumentation, photometry, calorimetry)
3	A96 (Medical, dental, veterinary, cosmetic)
3	D21 (Preparations for dental or toilet purposes)
2	B02 (Fused ring heterocyclics)
2	B05 (Other organics - aromatics, aliphatic, organo- metallics.)
1	C03 (Other organic or inorganic compounds and multi- component mixtures)
1	C06 (Biotechnology, plant genetics, veterinary vaccines)
1	D11 (Baking, including products, transporting, handling equipment)
1	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	E15 (Alicyclics)
1	P14 (Animal care)
1	P27 (Shop, household, furnishings)
1	P34 (Sterilising, syringes, electrotherapy)
1	Q42 (Hydraulic engineering, sewerage)
1	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
3	WANG H
2	CHEN Q
2	HUANG J
2	KOREA RES INST BIOSCIENCE & BIOTECHNOLOG
2	LI M

A tabela apresenta os assinantes com mais de 1 patente

Esta categoria não apresenta um destaque entre seus depositantes, pois não há um depositante que detenha mais de 3 patentes o que equivale a aproximadamente 4% do total de patentes. Dentre os depositantes com mais de uma patente, 4 são pesquisadores e 1 é uma empresa (Korea Res Inst Bioscience & Biotechnolog).

- **Países**

Mais de 55% das patentes deste categoria foram depositadas pela primeira vez na China (CN) enquanto as patentes mundiais (WO) englobam aproximadamente 19% deste total.

Número de Patentes	País do primeiro depósito
44	CN
15	WO
7	KR
7	US
4	JP
2	FR
1	BR
1	CA
1	CH
1	EP
1	RU
1	TW

➢ TRATAMENTO (T)

As patentes desta categoria somam 757 documentos, ou seja, 18% das patentes de biotecnologia que fazem referência de câncer tratam somente do tratamento da doença.

- **Tema das Patentes**

A classe com maior abrangência nesta categoria é a B04. Totalizando 678 documentos nesta classificação aproximadamente 90% do total de documentos de biotecnologia que citam de tratamento de câncer enquanto a classe D16 abrange 70% destas patentes.

Frequência das Patentes por Classe	Derwent class
678	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
530	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)

Frequência das Patentes por Classe	Derwent class
102	S03 (Scientific Instrumentation, photometry, calorimetry)
42	A96 (Medical, dental, veterinary, cosmetic)
35	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
30	B02 (Fused ring heterocyclics)
23	D22 (Sterilising, bandages, dressing and skin-protection agents)
22	C06 (Biotechnology, plant genetics, veterinary vaccines)
22	D13 (Other foodstuffs and treatment)
20	P34 (Sterilising, syringes, electrotherapy)

- **Principais Assinantes das Patentes de Tratamento com as respectivas frequência**

Frequência do Assinante	Assinante
15	SMITHKLINE BEECHAM
12	BODE GENE DEV CO LTD SHANGHAI
9	MILLENNIUM PHARM
8	GENAISSANCE PHARM INC
8	MERCK & CO INC
8	PHARMA PACIFIC PTY LTD
8	UNIV CALIFORNIA
8	UNIV TEXAS SYSTEM

A tabela apresenta os assinantes com 8 ou mais patentes

A Smithkline Beecham é o depositante com maior número de documentos que citam somente tratamento de câncer. Mas mesmo assim pode-se dizer que não há depositante que se destaque já que este número representa somente 2% do total de patentes nesta categoria.

- **Países**

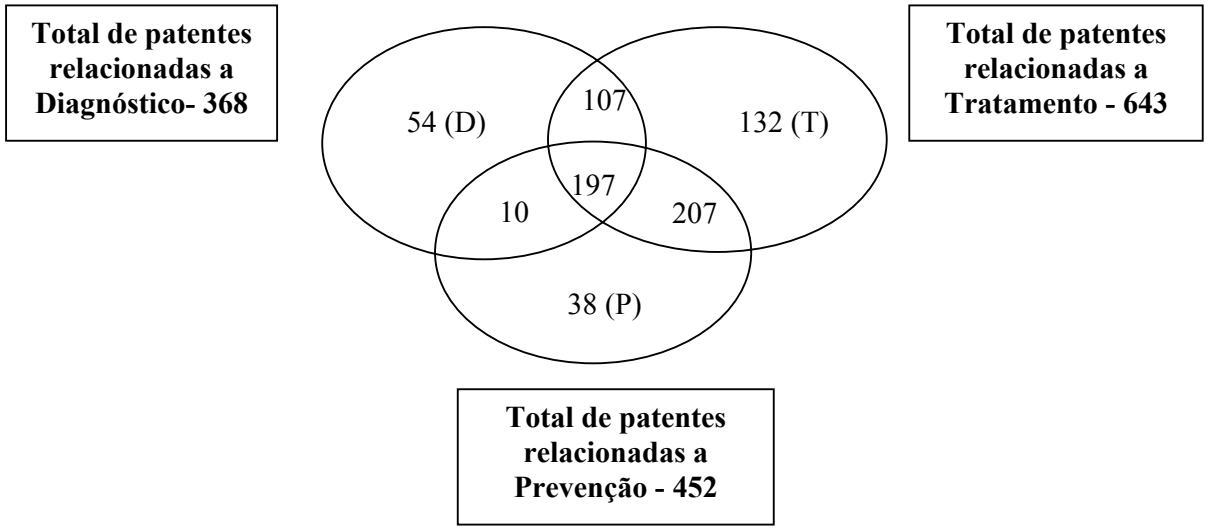
Aproximadamente 62% das patentes de biotecnologia que citam tratamento de câncer foram depositadas no escritório mundial (WO) sendo que destas, 279 são originárias dos Estados Unidos.

Número de Patentes	País do primeiro depósito
468	WO
103	US
49	CN
31	JP
28	EP
14	DE
11	GB
7	KR
5	FR
4	CA
3	RU
2	ZA
1	BR
1	NL

DOENÇAS INFECTO-CONTAGIOSAS

Foram recuperadas 1112 patentes com relação a doenças infecto-contagiosas, dentre as quais 745 relacinan-se a biotecnologia.

Distribuição das patentes biotecnológicas por categoria referentes a doenças infecto-contagiosas



CATEGORIAS

- **DIAGNÓSTICO (D), TRATAMENTO(T) E PREVENÇÃO(P)**

Esta categoria apresenta 197 patentes representando 26% do total de patentes em biotecnologia desta doença.

- **Tema das Patentes**

As principais classes são a B04 e D16 sendo que somente 1 patente não se encontra na primeira e 6 na segunda respectivamente.

Frequência das Patentes por Classe	Derwent class
196	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
191	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
48	S03 (Scientific Instrumentation, photometry, calorimetry)
11	C06 (Biotechnology, plant genetics, veterinary vaccines)
4	P14 (Animal care)
4	S05 (Electrical Medical Equipment)
3	D13 (Other foodstuffs and treatment)
2	P31 (Diagnosis, surgery)
2	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequências**

Frequência do Assinante	Assinantes
70	HUMAN GENOME SCI INC
25	CURAGEN CORP
17	SMITHKLINE BEECHAM CORP
16	RUBEN S M
11	ROSEN C A

A tabela apresenta os assinantes com mais de 10 patentes

A principal detentora é a Human Genome Sci Inc com 36% das patentes desta categoria com foco em biotecnologia.

- **Países4**

A grande maioria das patentes desta categoria foram depositadas no escritório mundial (WO), destas 154 são originárias dos Estados Unidos.

Número de Patentes	País
171	WO
25	US
1	DE

➢ DIAGNÓSTICO (D) E PREVENÇÃO (P)

São 10 patentes nesta categoria que apresenta o menor número de documentos desta doença.

- **Tema das Patentes**

As classes predominantes são B04 e D16.

Frequência das Patentes por Classe	Derwent class
8	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
7	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
3	P31 (Diagnosis, surgery)
3	S03 (Scientific Instrumentation, photometry, calorimetry)
2	D22 (Sterilising, bandages, dressing and skin-protection agents)
2	P32 (Dentistry, bandages, veterinary, prosthesis)

[4] No anexo 1 encontra-se a relação dos países e respectivos códigos

- **Principais Assinantes das Patentes de Diagnóstico e Prevenção com as respectivas freqüência**

Frequência do Assinante	Assinantes
1	BIOLINK PARTNERS INC
1	GEN-PROBE INC
1	GENOMAR ASA
1	IMV TECHNOLOGIES SA
1	MATSUI SANGYO KK
1	NITTO DENKO CORP
1	SANRITSU KK
1	SEKISUI CHEM IND CO LTD
1	UNIV MINNESOTA
1	US DEPT HEALTH & HUMAN SERVICES
1	PAVLAKIS G N
1	BEE G G
1	YANG Y Y
1	KOLK D P
1	GIACHETTI C
1	MCDONOUGH S H
1	BIOSOFT AS

A tabela mostra todos os assinantes das patentes nesta categoria

Não foi encontrado um depositante com mais de 1 patente.

- **Países**

Das 10 patentes desta categoria 5 estão depositadas no escritório mundial (WO) e 4 no Japonês.

Número de Patentes	País
5	WO
4	JP
1	EP

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

107 patentes encontram-se nesta categoria das doenças infecto-contagiosas com foco em biotecnologia.

- **Tema das Patentes**

Todas as patentes estão classificadas na classe B04 e a grande maioria também está classificada na D16.

Frequência das Patentes por Classe	Derwent class
107	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
101	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)

Frequência das Patentes por Classe	Derwent class
32	S03 (Scientific Instrumentation, photometry, calorimetry)
7	A96 (Medical, dental, veterinary, cosmetic)
7	C06 (Biotechnology, plant genetics, veterinary vaccines)
5	P14 (Animal care)
4	P31 (Diagnosis, surgery)
3	C07 (Apparatus, formulation)
3	D13 (Other foodstuffs and treatment)
3	J04 (Chemical/physical processes and apparatus including catalysis)
3	P34 (Sterilising, syringes, electrotherapy)
2	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
2	B07 (General - tablets, dispensers, catheters)
2	C03 (Other organic or inorganic compounds and multi- component mixtures)

- **Principais Assinantes das Patentes de Diagnóstico e Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
8	HYSEQ INC
8	MILLENNIUM PHARM INC
6	SMITHKLINE BEECHAM CORP
4	BAYER AG
4	LEXICON GENETICS INC

Assinantes com 4 ou mais patentes

A Hyseq Inc e a Millenium são as empresas líderes nesta categoria.

- **Países**

A grande maioria das patentes foi depositada no escritório mundial sendo que destas, 60 foram depositadas nos Estados Unidos.

Número de Patentes	País
84	WO
13	US
6	EP
2	GB
2	JP

➢ PREVENÇÃO (P) E TRATAMENTO (T)

207 patentes estão nesta categoria sendo esta a predominante das doenças infecto-contagiosas em termos de abrangência de patentes.

- **Tema das patentes**

As classes predominantes são a B04 e D16.

Frequência das Patentes por Classe	Derwent class
187	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
156	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
28	C06 (Biotechnology, plant genetics, veterinary vaccines)
26	S03 (Scientific Instrumentation, photometry, calorimetry)
18	D13 (Other foodstuffs and treatment)
15	D22 (Sterilising, bandages, dressing and skin-protection agents)
12	A96 (Medical, dental, veterinary, cosmetic)
11	C03 (Other organic or inorganic compounds and multi- component mixtures)
9	B07 (General - tablets, dispensers, catheters)
9	P34 (Sterilising, syringes, electrotherapy)

- **Principais Assinantes das Patentes de Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
6	CURAGEN CORP
6	US DEPT HEALTH & HUMAN SERVICES
4	SMITHKLINE BEECHAM CORP
4	UNIV CONNECTICUT HEALTH CENT
3	NOVARTIS AG
3	NOVARTIS-ERFINDUNGEN VERW GES MBH
3	TAKEDA CHEM IND LTD
3	UNIV IOWA RES FOUND

Assinantes com 3 ou mais patentes

A Curagem e o Departamento de Saúde e Serviços Humanos são os que mais depositaram patentes nos últrimos 2 anos nesta categoria.

- **Países**

Mais de 50% das patentes foram depositadas no escritório mundial e destas 89 são originárias dos Estados Unidos.

Número de Patentes	País
137	WO
26	JP
22	US
7	EP
6	CN
5	RU
1	DE
1	FR
1	GB
1	KR

➢ DIAGNÓSTICO (D)

Foram recuperadas 54 patentes nesta categoria.

- **Tema das patentes**

Somente 1 patente não está classificada na B04 , assim como só 6 também não estão na D16.

Frequência das Patentes por Classe	Derwent class
53	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
48	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
20	S03 (Scientific Instrumentation, photometry, calorimetry)
5	C06 (Biotechnology, plant genetics, veterinary vaccines)
4	J04 (Chemical/physical processes and apparatus including catalysis)
3	A96 (Medical, dental, veterinary, cosmetic)
3	C07 (Apparatus, formulation)
2	K08 (Nucleonics, X-ray techniques)
2	P31 (Diagnosis, surgery)
1	A14 (Other substituted mono-olefins, PVC, PTFE)
1	A89 (Photographic, laboratory equipment, optical)
1	B02 (Fused ring heterocyclics)
1	B03 (Other heterocyclics)
1	B05 (Other organics - aromatics, aliphatic, organo- metallics.)
1	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	E24 (Other dyes, all precursors)
1	P73 (Layered products)
1	S05 (Electrical Medical Equipment)
1	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Diagnóstico com as respectivas frequência**

Frequência do Assinante	Assinantes
2	APPLIED GENE TECHNOLOGIES INC
2	US DEPT HEALTH & HUMAN SERVICES

Assinantes com 2 ou mais patentes

Dentre os 79 depositantes neste grupo, apenas 2 apresentam mais de 1 patente.

- **Países**

60% das patentes de diagnóstico foram depositadas no escritório mundial, dentre os quais 17 são originárias dos Estados Unidos.

Número de Patentes	País
32	WO
9	US
5	RU
3	JP
2	CN
1	AU
1	DE
1	EP

➢ PREVENÇÃO (P)

São 38 patentes que tratam somente de prevenção e doença infecto-contagiosa com foco em biotecnologia.

- **Tema das patentes**

A grande maioria dos depósitos se enquadram nas classes B04 e D16.

Frequência das Patentes por Classe	Derwent class
27	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
27	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
9	C06 (Biotechnology, plant genetics, veterinary vaccines)
5	D22 (Sterilising, bandages, dressing and skin-protection agents)
5	P14 (Animal care)
5	P34 (Sterilising, syringes, electrotherapy)
4	D22 (Sterilising, bandages, dressing and skin- protection agents)
4	S03 (Scientific Instrumentation, photometry, calorimetry)
2	B07 (General - tablets, dispensers, catheters)
2	P13 (Plant culture, dairy products)

- **Principais Assinantes das Patentes de Prevenção com as respectivas frequência**

Foram identificados 49 assinantes neste grupo dentre os quais somente a Crystal Biotechnology Res & Dev Co Ltd possui mais de uma patente (2).

- **Países**

Das 38 patentes sobre prevenção, 14 foram depositadas no escrtório japonês (JP)

Número de Patentes	País do Primeiro Depósito
14	JP
9	WO
7	US
5	CN
1	EP
1	KR
1	MX

➢ **TRATAMENTO (T)**

Um conjunto expressivo das patentes referem-se a tratamento somando 132 depósitos nos últimos 2 anos com foco em biotecnologia.

- **Tema das Patentes**

A grande maioria dos depósitos estão na Classe B04 seguidos da classe 84.

Frequência das Patentes por Classe	Derwent class
119	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
84	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
14	D22 (Sterilising, bandages, dressing and skin-protection agents)
13	P34 (Sterilising, syringes, electrotherapy)
9	A96 (Medical, dental, veterinary, cosmetic)
8	C03 (Other organic or inorganic compounds and multi- component mixtures)
8	S03 (Scientific Instrumentation, photometry, calorimetry)
6	C06 (Biotechnology, plant genetics, veterinary vaccines)
5	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
5	D21 (Preparations for dental or toilet purposes)
3	P14 (Animal care)
3	P43 (Sorting, cleaning, waste disposal)
2	B02 (Fused ring heterocyclics)
2	D13 (Other foodstuffs and treatment)
2	D22 (Sterilising, bandages, dressing and skin- protection agents)
2	K07 (Health physics)

- **Principais Assinantes das Patentes de Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
2	ADVANCED TISSUE SCI INC
2	AVIGEN INC
2	CNRS CENT NAT RECH SCI
2	MOUNT SINAI HOSPITAL
2	PANTHECO AS
2	TORAY IND INC
2	TRANSGENE SA
2	UNIV CALIFORNIA
2	UNIV LELAND STANFORD JUNIOR
2	VALENTIS INC

Assinantes com mais de 1 patente

- **Países**

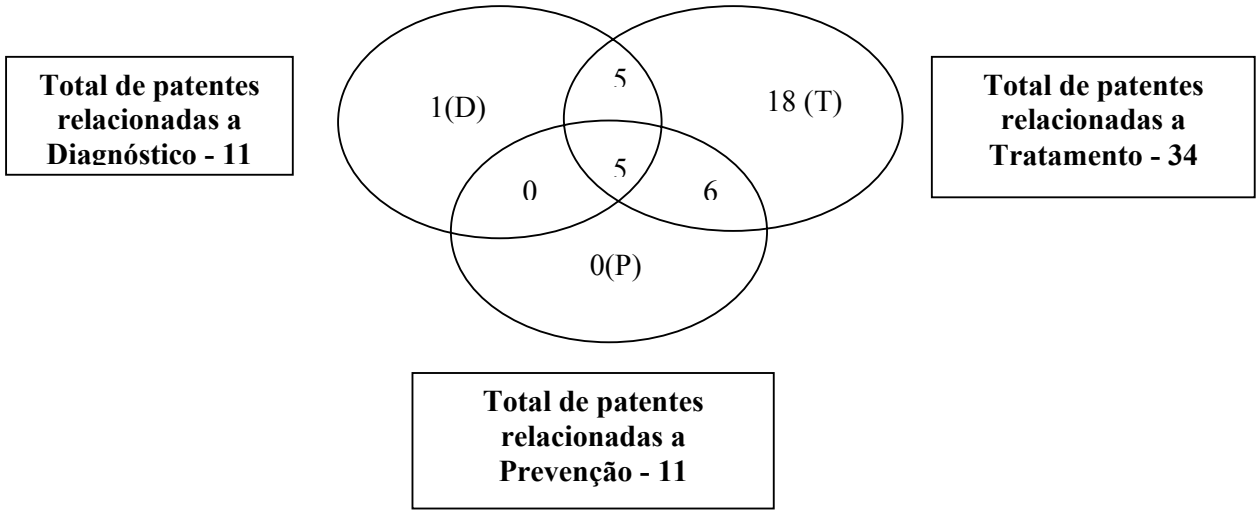
Mais da metade das patentes desta categoria foram depositadas nos dois últimos anos no escritório mundial, sendo que 35 destas tem origem nos Estados Unidos.

Número de Patentes	País do Primeiro Depósito
73	WO
18	US
11	JP
10	EP
10	RU
5	DE
2	CA
2	CN
1	FR

I. LEISHIMANIOSE

Foram recuperadas 75 patentes referentes a leischimaniose, destas 35 são patentes referentes à biotecnologia, representando 50% do total. O número de patentes relacionadas a leishmaniose em cada categoria é representado na figura a seguir.

Distribuição das patentes biotecnológicas por categoria referentes à leishmaniose



Nota-se que 34 patentes fazem menção ao tratamento de leishmaniose, ou seja, aproximadamente 100% do total de patentes de biotecnologia. As patentes tanto de diagnóstico quanto de prevenção correspondem a 30% das patentes de biotecnologia.

CATEGORIAS

- **DIAGNÓSTICO (D), TRATAMENTO(T) E PREVENÇÃO(P)**

O número de patentes cujo assunto engloba tanto o tratamento quanto diagnóstico e prevenção de leishmaniose representa aproximadamente 15% do total de patentes de biotecnologia relacionadas à doença.

- **Tema das Patentes**

As 5 patentes desta categoria estão tanto na classe B04, quanto na D16. A classe C06 aparece em apenas 1 patente que se refere à um polipeptídio novo. Duas das 5 patentes estão na classe S03 referente à instrumentação científica.

- **Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequências**

As patentes podem ser de origem institucional e/ou corporativa ou de pesquisadores. Dentre as 5 patentes nesta categoria, 2 foram depositadas pela empresa Corixa Corp e 2 pela Millennium Pharm INC. Estas empresas são basicamente de pesquisa em biotecnologia engajadas em desenvolver novas drogas para tratamento de doenças como câncer e infecto-contagiosas. Uma patente deste categoria é classificada como, individual com 5 inventores (especialistas).

- **Países e assinantes**

Do total de patentes deste categoria três foram depositadas nos Estados Unidos (US) e duas são patentes mundiais (WO).

País / Empresa	US	WO
Millennium	1	1
Corixa	1	1
Individual	1	

➢ DIAGNÓSTICO (D) E PREVENÇÃO (P)

Não foram encontradas patentes referentes somente a diagnostico e prevenção de leishmaniose

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

Foram recuperadas 5 patentes cujo conteúdo refere-se ao diagnóstico e tratamento de leishmaniose, este número representa 15% do total de patentes em biotecnologia cujo conteúdo engloba a doença estudada.

- **Tema das Patentes**

Todas as patentes que englobam diagnóstico e tratamento de leishmaniose apresentam a classificação, B04, D16 e S03

- **Principais Assinantes das Patentes de Diagnóstico e Prevenção com as respectivas frequência**

Os depositantes neste categoria são as empresas Millennium Pharm e Baxter Int. A primeira possui 3 patentes sendo uma em parceria com pesquisadores individuais e a segunda possui apenas 1 patente e esta é em parceria com técnicos pesquisadores. A patente restante é individual.

- **Países**

Dentre as 5 patentes pertencentes a este categoria 4 são patentes mundiais (WO) e 1 foi depositada nos Estados unidos.

➢ PREVENÇÃO (P) E TRATAMENTO (T)

Foram recuperadas 6 patentes cujo conteúdo trata de prevenção e tratamento de leishmaniose.

- **Tema das patentes**

Nota-se que todas as patentes de prevenção e tratamento de Leishmaniose estão classificadas como B04 e 50% destas estão também classificadas como D16.

Frequência das Patentes por Classe	Derwent class
6	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
3	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
2	C06 (Biotechnology, plant genetics, veterinary vaccines)
1	B05 (Other organics - aromatics, aliphatic, organo- metallics.)
1	C03 (Other organic or inorganic compounds and multi- component mixtures)
1	P14 (Animal care)
1	S03 (Scientific Instrumentation, photometry, calorimetry)

- **Assinantes das Patentes de Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
2	LAGRONE R P
1	BARBI N S
1	CORIXA CORP
1	DOS SANTOS R R
1	EVOLUTEC LTD
1	FERNANDEZ-FERREIRA E
1	FIOCRUZ (FUNDACAO CRUZ OSWALDO)
1	MEDICAL RES COUNCIL
1	RIBEIRO I M
1	SOARES M B P
1	SOARES R O D A
1	TOMASSINI T C B
1	XAVIER D C D

A tabela apresenta todos os 13 assinantes

Nota-se que a FIOCRUZ, juntamente com 8 pesquisadores individuais, é depositante de 1 das 6 patentes de prevenção e de tratamento de Leishmaniose. As outras empresas e instituições são a Corixa Corp e Evolutec LTDA e a Medical Res Concil.

- **Países**

Foram identificados 3 patentes depositadas primeiramente no escritorio mundial, 2 nos Estados Unidos e 1 no Brasil.
A patente brasileira foi depositado pela FIOCRUZ e refere-se a uma nova composição utilizada para o tratamento de infecções por protozoários e doenças autoimunes. Esta patente foi depositada também nos Estados Unidos (US) em 2001.

Dentre as 3 patentes mundiais (WO) duas têm sua tecnologia originadas da Grã Bretanha e 1 é originária da Austrália.

- **DIAGNÓSTICO (D)**

Apenas 1 patente está inserida neste categoria e foi depositada pelo exército dos EUA juntamente com 3 pesquisadores. Esta é uma patente mundial cujo assunto principal está relacionado as Classes B04 , C07, D16, S03.

- **PREVENÇÃO (P)**

Não há patentes pertencentes a este categoria.

- **TRATAMENTO (T)**

Existem 18 patentes referentes exclusivamente ao tratamento de Leishmaniose. Este total representa 51% do número de documentos em biotecnologia que citam a doença.

- **Tema das Patentes**

Nota-se na tabela a seguir que 94 % das patentes de tratamento de Leishmaniose estão classificadas como B04 e 78% está na D16.

Frequência das Patentes por Classe	Derwent class
17	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
14	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
2	B02 (Fused ring heterocyclics)
2	C06 (Biotechnology, plant genetics, veterinary vaccines)
1	B03 (Other heterocyclics)
1	P14 (Animal care)

- **Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
3	SCHERING CORP
2	GLAXO GROUP LTD
1	BANDYOPADHYAY S
1	BHATTACHARYA S
1	BLACKMAN R K
1	BOND M W
1	BULAWA C E
1	COUNCIL SCI & IND RES
1	CYTRAN INC
1	DYKE J P
1	DYNAVAX TECHNOLOGIES CORP
1	ICN PHARM INC
1	INNOGENETICS NV
1	KEAVENEY M
1	MEDICAL RES COUNCIL
1	MILLENNIUM PHARM INC

Frequência do Assinante	Assinantes
1	MOORE K W
1	MOSMANN T R
1	PAL B
1	RAY M
1	ROY K C
1	SRI INT
1	UNIV GLASGOW
1	UNIV RAMOT APPLIED RES & IND DEV LTD
1	VIEIRA P J M
1	VLAAMS INTERUNIVERSITAIR INST BIOTECHNOG

A Schering Corp e a Glaxo são as empresas que se destacam em número de patentes sobre tratamento de Leishmaniose depositadas em 2001 e 2002.

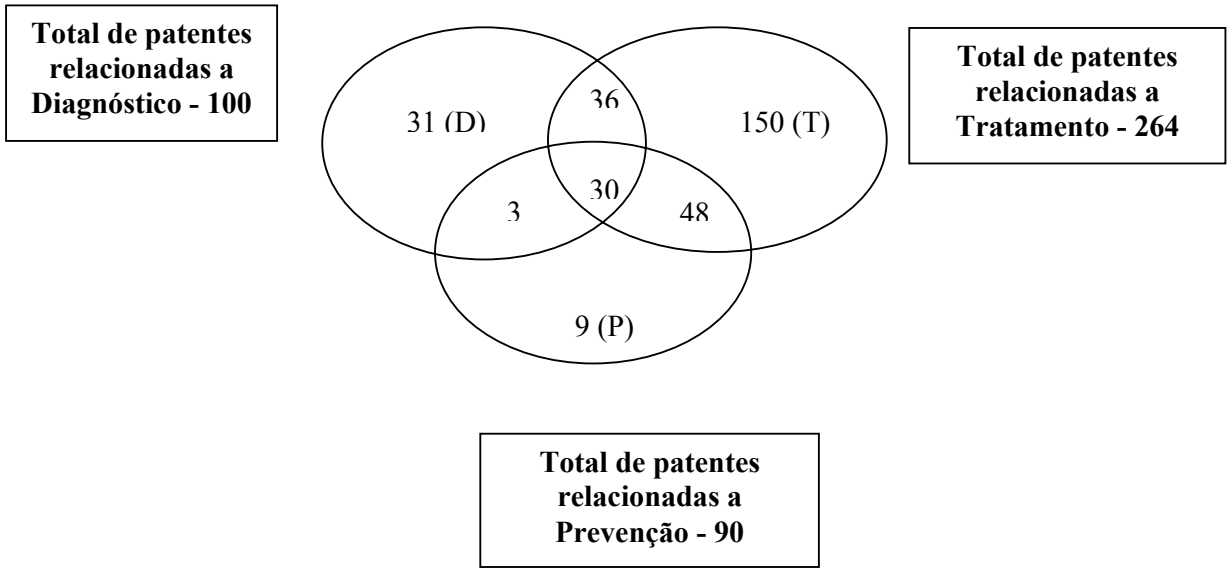
- **Países**

Das 18 patentes desta categoria, tratamento 11 são patentes mundiais e 7 foram depositadas primeiramente nos EUA. Cabe ressaltar que dentre as patentes mundiais 4 são originárias da Grã Bretanha, 4 dos e Estados Unidos (US), 2 da Europa e 1 da Austrália.

II. TUBERCULOSE

O total de patentes de tuberculose recuperados foi 577 sendo que 62% destas são patentes que referem-se ao uso da biotecnologia para prevenção, tratamento ou diagnóstico da doença. Destas 300 patentes 100 referem-se a diagnóstico, 90 a prevenção e 264 ao tratamento de tuberculose.

Distribuição das patentes biotecnológicas por categoria referentes à Tuberculose



CATEGORIAS

- **DIAGNÓSTICO (D), TRATAMENTO (T) E PREVENÇÃO (P)**

As 30 patentes mais abrangentes, ou seja, aquelas cujo conteúdo cita diagnóstico, tratamento, e prevenção de tuberculose, representam 10% das patentes da doença em biotecnologia.

- **Tema das Patentes**

Todas as patentes de diagnóstico, tratamento, e prevenção estão classificadas como B04. Apenas uma destas patentes não é classificada também na D16.

Frequência das Patentes por Classe	Derwent class
30	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
29	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
12	S03 (Scientific Instrumentation, photometry, calorimetry)
3	A96 (Medical, dental, veterinary, cosmetic)
2	P14 (Animal care)
1	B05 (Other organics - aromatics, aliphatic, organo-metallics.)

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
8	MILLENNIUM PHARM INC
2	AMGEN INC
2	BAYER AG
2	HUMAN GENOME SCI INC
2	IMMUNEX CORP

A tabela apresenta os assinantes com 2 ou mais patentes

A empresa Millenium Pharm se destaca no categoria tendo depositado 27% das patentes .

- **Países**

Dentre as 30 patentes recuperadas 24 foram depositadas no escritório mundial (WO) representando 80% do total de documentos neste categoria. As outras 6 patentes foram depositadas primeiramente nos Estados Unidos (US). Cabe ressaltar que dentre as patentes mundiais 17 são originárias dos Estados Unidos.

Número de Patentes	País
24	WO
6	US

- **DIAGNÓSTICO (D) E PREVENÇÃO (P)**

Foram encontradas 3 patentes de diagnóstico e prevenção , sendo todas classificadas como B04, 2 na classe D16 e uma pertence a classe S03, conforme a tabela a seguir.

Frequência das Patentes por Classe	Derwent class
3	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
2	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
1	S03 (Scientific Instrumentation, photometry, calorimetry)

- **Assinantes das Patentes de Diagnóstico e Prevenção com as respectivas frequência**

Cada uma das patentes foi depositada por um depositante diferente estes são a Bioneer Corp , a Novos Tuberculosis Res Inst e Eniss Life Sci Co Ltd

- **Países**

Dentre as 3 patentes deste categoria 1 foi depositada pela primeira vez na Coréia do Sul , uma na Rússia e a outra nos Estados Unidos.

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

Entre as patentes de tuberculose com foco em biotecnologia 36 citam o tratamento e o diagnóstico da doença o representando 12% deste total.

- **Tema das Patentes**

Aproximadamente 97% das patentes de biotecnologia cuja categoria é a de tratamento e diagnóstico da tuberculose. São classificadas como B04. Estas patentes também estão em sua maioria também inseridas na classe D16. Este ranking pode sr contemplado na tabela a seguir.

Frequência das Patentes por Classe	Derwent class
35	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
32	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
16	S03 (Scientific Instrumentation, photometry, calorimetry)
1	A89 (Photographic, laboratory equipment, optical)
1	A96 (Medical, dental, veterinary, cosmetic)
1	B03 (Other heterocyclics)
1	B05 (Other organics - aromatics, aliphatic, organo- metallics.)
1	C03 (Other organic or inorganic compounds and multi- component mixtures)
1	C06 (Biotechnology, plant genetics, veterinary vaccines)
1	D13 (Other foodstuffs and treatment)
1	D21 (Preparations for dental or toilet purposes)
1	K08 (Nucleonics, X-ray techniques)

- **Principais Assinantes das Patentes de Diagnóstico e Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
9	MILLENNIUM PHARM INC
5	GLAXO GROUP LTD
2	EPIGENOMICS AG

Assinantes com mais de 1 patente

Este categoria de patentes apresenta 41 depositantes. Onde os principais em número de patentes ao a Millenium Pharm, a Glaxo.

- **Países**

O número de patentes depositadas no escritório mundial (WO) representa aproximadamente 81% do das 36 patentes de diagnóstico e tratamento de tuberculose. Entre estas 15 originam se dos Estados Unidos (US) e 7 da Grã Bretanha. A distribuição do restante das patentes neste categoria está relacionada na tabela a seguir.

Número de Patentes	País
29	WO
4	US
2	DE
1	JP

➢ PREVENÇÃO(P) E TRATAMENTO(T)

As patentes que abordam prevenção e tratamento de tuberculose representam 16% do total de patentes da doença em biotecnologia, ou seja, 48 patentes.

- **Tema das Patentes**

Aproximadamente 93% das patentes de prevenção e tratamento de tuberculose está inserida na classe B04 da base de dados Derwent. A segunda classe mais importante nesta categoria é a D16 com 33 patentes.

Frequência das Patentes por Classe	Derwent class
45	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
33	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
9	S03 (Scientific Instrumentation, photometry, calorimetry)
3	A96 (Medical, dental, veterinary, cosmetic)
3	D13 (Other foodstuffs and treatment)
2	C06 (Biotechnology, plant genetics, veterinary vaccines)
2	D21 (Preparations for dental or toilet purposes)
2	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	B03 (Other heterocyclics)
1	B06 (Inorganics)
1	B07 (General - tablets, dispensers, catheters)
1	C03 (Other organic or inorganic compounds and multi- component mixtures)
1	D25 (Detergents other than soap)
1	K08 (Nucleonics, X-ray techniques)
1	P15 (Tobacco)
1	P34 (Sterilising, syringes, electrotherapy)
1	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
6	UNIV YESHIVA EINSTEIN COLLEGE
2	CORIXA CORP
2	US DEPT HEALTH & HUMAN SERVICES

A tabela apresenta os assinantes com mais de 1 patente

Os titulares que se destacam entre os 48 depositantes das patentes recuperadas neste categoria são a Universidade Yeshiva Einstein College, a empresa Corixa Corp e o US Dept Health & Human Services.

- **Países**

A categoria de patentes mundiais é o de maior representatividade em número de patentes sendo que a origem de 26 destas patentes são os Estados Unidos (US).

Número de Patentes	País
35	WO
4	US
3	CN
3	JP
1	DE
1	EP
1	RU

➢ DIAGNÓSTICO (D)

As patentes relacionadas exclusivamente ao diagnóstico de tuberculose representam aproximadamente 10% das patentes de biotecnologia que citam tuberculose somando 31 documentos.

- **Tema das Patentes**

A totalidade dos documentos de patentes desta categoria está classificada como B04. Outras classes significativas nesta categoria de patentes são a D16 com 22 patentes e a S03 com 13.

Frequência das Patentes por Classe	Derwent class
30	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
22	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
13	S03 (Scientific Instrumentation, photometry, calorimetry)
3	P31 (Diagnosis, surgery)
1	A96 (Medical, dental, veterinary, cosmetic)
1	B03 (Other heterocyclics)
1	C06 (Biotechnology, plant genetics, veterinary vaccines)
1	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	J04 (Chemical/physical processes and apparatus including catalysis)
1	K08 (Nucleonics, X-ray techniques)
1	P33 (Medical aids, oral administration)
1	P34 (Sterilising, syringes, electrotherapy)
1	Q74 (Heating, ranges, ventilating)
1	S05 (Electrical Medical Equipment)

- **Principais Assinantes das Patentes de Diagnóstico com as respectivas frequência**

Frequência do Assinante	Assinantes
3	ST PETERSBURG PHYTOPULMONOLOGY RES INST
2	MOSC TUBERCULOSIS SCI PRACTICAL CENTRE

A tabela apresenta os assinantes com mais de 1 patente

Os depositantes com número de patentes superior a 1 são o St Petersburg Phytopulmonology Res Inst e o Mosc Tuberculosis Sci Practical Centre.

- **Países**

As patentes mundiais (WO) representam 42% das patentes exclusivas de diagnóstico de tuberculose, enquanto as patentes depositadas no escritório Russo representam aproximadamente 30% do total de 31 patentes neste categoria.

Número de Patentes	País
13	WO
9	RU
5	US
2	JP
1	EP
1	IT

➢ PREVENÇÃO (P)

Foram recuperadas 9 patentes cuja categoria diz respeito a prevenção de leishmaniose.

- **Tema das Patentes**

Aproximadamente 90% dos documentos recuperados neste categoria são classificados como B04 conforme é demonstrado a seguir.

Frequência das Patentes por Classe	Derwent class
8	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
2	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
1	B07 (General - tablets, dispensers, catheters)
1	D22 (Sterilising, bandages, dressing and skin-protection agents)

- **Assinantes das Patentes de Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
1	ASAHI CHEMICA KK
1	CENTERS DISEASE CONTROL & PREVENTION
1	DELBRUECK CENT MOLEKULARE MEDIZIN MAX
1	FIBROGEN INC
1	ISHIKAWA T
1	LI M
1	LI T
1	NAT JEWISH MEDICAL & RES CENT
1	TATSUTA GOSEI KOGYOSHO KK
1	WU W
1	WU Z

Dentre os depositantes de patentes de prevenção de tuberculose não foi encontrado nenhum mais de 1 depósito nos dois últimos anos.

- **Países**

Entre as 9 patentes de prevenção de tuberculose 4 foram depositadas pela primeira vez na China (CN) conforme pode ser visto na tabela seguinte:

Número de Patentes	País
4	CN
2	WO
1	DE
1	JP
1	US

➢ TRATAMENTO (T)

As patentes de tratamento de tuberculose correspondem a 50% do total de patentes em biotecnologia que citam a doença em questão, ou seja, foram encontradas 150 patentes nesta categoria.

- **Tema das Patentes**

A classe predominante entre as patentes de tratamento de tuberculose é a B04 com 144 patentes, seguida da classe D16 com 73.

Frequência das Patentes por Classe	Derewent class
144	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
73	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
16	S03 (Scientific Instrumentation, photometry, calorimetry)
10	A96 (Medical, dental, veterinary, cosmetic)
10	C06 (Biotechnology, plant genetics, veterinary vaccines)
7	D13 (Other foodstuffs and treatment)
6	B02 (Fused ring heterocyclics)
5	C03 (Other organic or inorganic compounds and multi- component mixtures)
5	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
4	P14 (Animal care)
4	B03 (Other heterocyclics)
3	T01 (Digital Computers)
2	A25 (Polyurethanes, polyethers)
2	B07 (General - tablets, dispensers, catheters)
2	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	P34 (Sterilising, syringes, electrotherapy)
1	A14 (Other substituted mono-olefins, PVC, PTFE)
1	A89 (Photographic, laboratory equipment, optical)
1	C01 (Organophosphorus, organometallic)
1	F01 (Threads and fibres, natural or artificial spinning)

- **Principais Assinantes das Patentes de Tratamento com as respectivas frequências**

Frequência do Assinante	Assinantes
6	UNIV CALIFORNIA
3	GLAXO GROUP LTD
3	PHARMA PACIFIC PTY LTD
2	BELLAMINE A
2	BOMSUND GRUPO ASESOR SL
2	BOSSELMAN R A
2	IDEC PHARM CORP
2	IMMUNEX CORP
2	LU Q
2	MARTIN F H
2	MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN
2	SHI H
2	SUGGS S V
2	TIAN L
2	WATERMAN M R
2	ZHANG Y
2	ZSEBO K M

A tabela apresenta os assinantes com mais de 1 patente

Os titulares que se destacam entre aqueles que depositarm patentes em tratamento de tuberculose são a universidade da Califórnia, a Glaxo e a Pharma Pacific Pty..

- **Países**

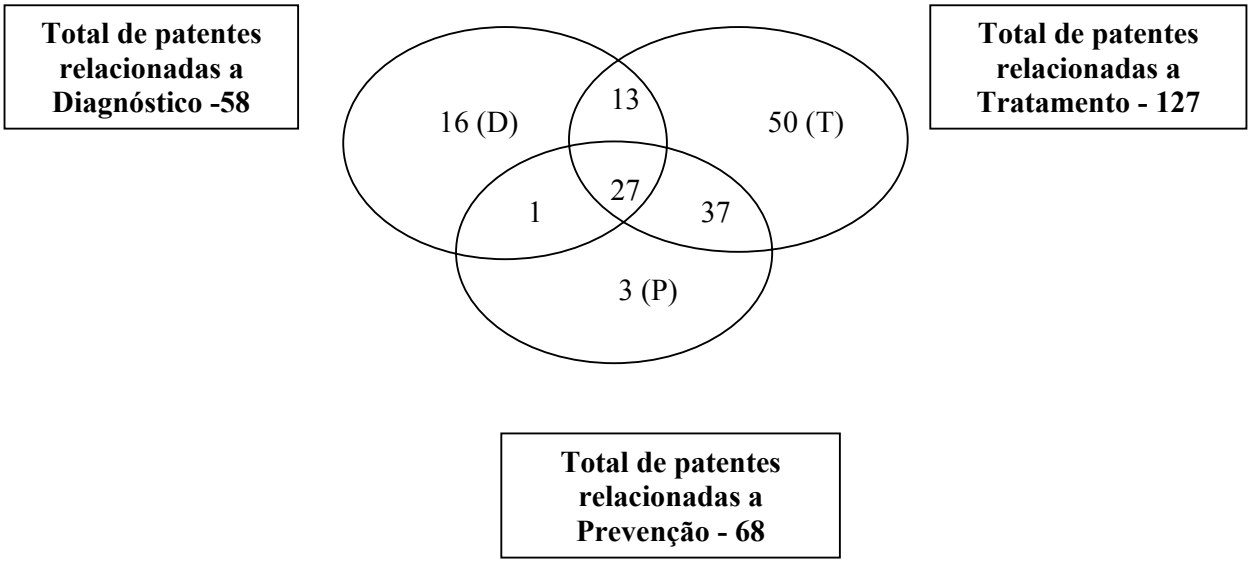
As patentes mundiais(WO) representam 46% das patentes neste categoria da amostra enquanto aquelas depositadas no escritório chinês (CN) representam 36%.

Número de Patentes	País
69	WO
54	CN
22	US
3	RU
1	DE
1	JP

III. MALÁRIA

Foram recuperadas 443 patentes referente a malária dentre as quais 147 referem-se a biotecnologia cuja predominância é tratamento.

Distribuição das patentes biotecnológicas por categoria referentes à Malária



CATEGORIAS

- **DIAGNÓSTICO (D) TRATAMENTO (T) E PREVENÇÃO (P)**

Esta categoria apresenta 3 patentes .

- **Tema das Patentes**

As patentes desta categoria estão nas classes B04 e D16 principalmente.

Frequência das Patentes por Classe	Derwent class
26	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
26	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
12	S03 (Scientific Instrumentation, photometry, calorimetry)
2	C03 (Other organic or inorganic compounds and
2	P14 (Animal Care)
1	A96 (Medical, dental, veterinary, cosmetic)
1	B02 (Fused ring heterocyclics)
1	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
1	S05 (Electrical Medical Equipment)

- **Principais Assinantes das Patentes de Diagnóstico, Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
2	COGENT NEUROSCIENCE INC
2	HUMAN GENOME SCI INC
2	INCYTE GENOMICS INC
2	MILLENNIUM PHARM INC
2	NI J
2	YU G

A tabela apresenta os assinantes com mais de 1 patente

- **Países**

74% das patentes foram depositadas no escritório mundial, dentre as quais 16 são originárias dos Estados Unidos.

Número de Patentes	País
20	WO
5	US
2	EP

➢ DIAGNÓSTICO (D) E PREVENÇÃO (P)

Esta categoria apresenta apenas 1 patente depositada pela UNIV OSAKA juntamente com um pesquisador e esta é uma patente mundial(WO).

➢ DIAGNÓSTICO (D) E TRATAMENTO (T)

13 patentes estão nesta categoria.

- **Tema das Patentes**

Todas as patentes desta categoria estão nas classes B04 e D16.

Número de patentes	Derwent class
13	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
13	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
4	S03 (scientific instrumentation, photometry, calorimetry)
1	A89 (Photographic, laboratory equipment, optical)
1	C06 (biotechnology, plant genetics, veterinary vaccines)
1	P36 (Sports, games, toys)

- **Assinantes das Patentes de Diagnóstico e Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
2	CENTOCOR INC
1	APOTECH RES & DEV LTD
1	BASF AG
1	CENT INVESTIGACION & ESTUDIOS AVANZADOS
1	COLE D G
1	COUNCIL QUEENSLAND INST MEDICAL RES
1	EPIGENOMICS AG
1	FONSECA L S R
1	FONSECA LINAN S R
1	GENAISSANCE PHARM INC
1	HINNEBUSCH M
1	HOFFMANN LA ROCHE & CO AG F
1	ORTEGA P M G
1	ORTEGA PIERRES M G
1	PAZOUR G J
1	PROTEOPHARMA APS
1	RES & DEV INST INC
1	ROSENBAUM J L
1	SCIOS INC
1	UNIV MASSACHUSETTS
1	WITMAN G B

- **Países**

70% das patentes nesta categoria foram depositadas no escritório mundial(WO), sendo que 6 são originárias dos

Número de Patentes	País
9	WO
2	DE
1	EP
1	MX

➢ PREVENÇÃO(P) E TRATAMENTO(T)

São 37 patentes que compõem esta categoria com em biotecnologia pare malária.

- **Tema das Patentes**

A maioria das patentes desta categoria está nas classes B04 e/ou D16.

Frequência das Patentes por Classe	Derwent class
32	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
29	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
7	S03 (Scientific Instrumentation, Photometry, Calorimetry)

Frequência das Patentes por Classe	Derwent class
3	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
3	C06 (Biotechnology, plant genetics, veterinary vaccines)
2	B03 (Other heterocyclics)
2	D21 (Preparations for dental or toilet purposes)
2	D22 (Sterilising, bandages, dressing and skin-protection agents)
1	A96 (MEDICAL, DENTAL, VETERINARY, COSMETIC)
1	B02 (Fused ring heterocyclics)
1	B06 (Inorganics)
1	C02 (Heterocyclic)
1	C03 (Other organic or inorganic compounds and
1	C07 (Apparatus, formulation)
1	D13 (Other foodstuffs and treatment)
1	E32 (Compounds of Ti, Zr, Hf, Cu, Ag, Au, Zn, Cd, Hg, Ga, In, Te, Ge, Sn, Pb, As, Sb, Bi)
1	F06 (Chemical-type treatment of textiles)
1	F09 (Paper- making production of cellulose, chemical treatment of wood)
1	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Tratamento e Prevenção com as respectivas frequência**

Frequência do Assinante	Assinantes
2	BEACON LAB INC
2	IMMUNEX CORP
2	LAGRONE R P
2	LAN-HARGEST H
2	MEDICAL RES COUNCIL
2	SIMS J E
2	UNIV YESHIVA EINSTEIN COLLEGE
2	US DEPT HEALTH & HUMAN SERVICES
2	WIECH N L

Assinantes com mais de 1 patente

- **Países**

A maioria das patentes (70%) foi depositada no escritório mundial (WO). Destas patentes mundiais 19 são originárias dos Estados Unidos.

Número de Patentes	País
26	WO
5	US
3	EP
2	JP
1	DE

➢ DIAGNÓSTICO (D)

16 patentes com foco em biotecnologia e exclusivamente para malária estão nesta categoria.

- **Tema das Patentes**

Todas as patentes nesta categoria estão classificadas em B04 e com ênfase também aparece a classificação D16.

Frequência das Patentes por Classe	Derwent class
16	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
13	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
5	S03 (scientific instrumentation, photometry, calorimetry)
1	A96 (medical, dental, veterinary, cosmetic)
1	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
1	C03 (Other organic or inorganic compounds and
1	C06 (biotechnology, plant genetics, veterinary vaccines)
1	C07 (Apparatus, formulation)
1	P31 (Diagnosis, surgery)
1	S05 (Electrical Medical Equipment)

- **Assinantes das Patentes de Diagnóstico com as respectivas frequência**

Todos os assinantes desta categoria só apresentaram 1 depósito nos últimos 2 anos.

Frequência do Assinante	Assinantes
1	ACKERMAN N
1	AFFYMETRIX INC
1	ANDCARE INC
1	ANTICANCER INC
1	ATAIRGIN TECHNOLOGIES INC
1	BAYONA M
1	BIOSITE DIAGNOSTICS INC
1	BZIK D J
1	CARDENAS A
1	CYGNUS INC
1	DEUT KREBSFORSCHUNGSZENTRUM
1	GARCIA-RUBIO L H
1	GENPHARM INT
1	GENPHARM INT INC
1	HAN Q
1	HORII T
1	HUMANBIO CO LTD
1	INSELBURG J W
1	JAPAN ATOMIC ENERGY RES INST
1	KOREA GREEN CROSS CORP
1	LEPARC G

Frequência do Assinante	Assinantes
1	LG CHEM INVESTMENT LTD
1	LG CHEM LTD
1	LIM C S
1	MATTLEY Y D
1	PRACHUMSRI J
1	REED ARMY INST RES WALTER
1	SUGIYAMA T
1	UNIV COLLEGE LONDON
1	UNIV HEIDELBERG RUPRECHT-KARLS
1	UNIV NEW YORK STATE
1	UNIV SOUTH FLORIDA
1	XU M
1	YIMAMNUAYCHOK N

- **Países**

O escritório mundial e americano predominam nos depósitos de patentes.

Número de Patentes	País
7	WO
6	US
1	DE
1	JP
1	KR

➢ **PREVENÇÃO (P)**

Apenas três patentes foram encontradas nesta categoria.

- **Tema das Patentes**

Todas as patentes estão na B04 e na D16.

Frequência das Patentes por Classe	Derwent class
3	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
3	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
2	C06 (Biotechnology, plant genetics, veterinary vaccines)

- **Assinantes das Patentes de Prevenção com as respectivas frequência**

Nesta categoria de prevenção não há depósito de empresas.

Frequência do Assinante	Assinantes
1	UNIV HAWAII
1	UNIV TEXAS SYSTEM
1	US DEPT HEALTH & HUMAN SERVICES

- **Países**

Duas das três patentes foram depositadas no escritório mundial e 1 no americano. Todas as patentes mundiais são originárias dos Estados Unidos.

Número de Patentes	País
2	WO
1	US

➢ TRATAMENTO (T)

50 patentes estão nesta categoria que se configura como líder de depósitos em malária com foco em biotecnologia.

- **Tema das Patentes**

Praticamente todas as patentes estão classificadas em B04 e D16

Frequência das Patentes por Classe	Derwent class
49	B04 (natural products and polymers, testing, compounds of unknown structure)
46	D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
5	A96 (medical, dental, veterinary, cosmetic)
5	B02 (Fused ring heterocyclics)
5	P14 (Animal care)
5	S03 (scientific instrumentation, photometry, calorimetry)
3	C06 (biotechnology, plant genetics, veterinary vaccines)
2	P34 (Sterilising, syringes, electrotherapy)
1	A25 (Polyurethanes, polyethers)
1	B05 (Other organics - aromatics, aliphatic, organo-metallics.)
1	C03 (Other organic or inorganic compounds and
1	P15 (Tobacco)
1	P32 (Dentistry, bandages, veterinary, prosthesis)
1	T01 (Digital Computers)

- **Principais Assinantes das Patentes de Tratamento com as respectivas frequência**

Frequência do Assinante	Assinantes
5	PHARMA PACIFIC PTY LTD
3	BOSSELMAN R A
3	MARTIN F H
3	SUGGS S V
3	ZSEBO K M
2	BAYER CORP
2	GLAXO GROUP LTD
2	IDEC PHARM CORP
2	MILLENNIUM PHARM INC

Assinantes com mais de 1 patente

A líder de depósitos nesta categoria é a empresa Pharma Pacific Pty Ltd.

- **Países**

Mais da metade das patentes foram depositadas no escritório mundial (WO), sendo que destas, 22 são originárias dos Estados Unidos.

Número de Patentes	País
38	WO
12	US
1	CN

PARTE II

TENDÊNCIA DAS PATENTES DA CATEGORIA LÍDER POR DOENÇA: PRINCIPAL EMPRESA

A partir da identificação das categorias líderes em número de patentes por doença foram identificados as *top* empresas e suas tendências de patenteamento , estando listados os títulos.

DOENÇAS CRÔNICAS

I. DIABETES

- **Principal categoria**

Diagnóstico tratamento e prevenção – 561 patentes , aproximadamente 29% do total (1890).

- **Empresa principal**

INCYTE GENOMICS INC (INCY-Non-standard) – 90 patentes

- **Principais classificações**

B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering. – **41 patentes**

Número de Patentes	Derwent
41	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.
21	P14 (Animal care); B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; S03 (Scientific Instrumentation, photometry, calorimetry)
10	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; S03 (Scientific Instrumentation, photometry, calorimetry)
3	P14 (Animal care); B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.
2	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); C06 (Biotechnology, plant genetics, veterinary vaccines); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.

Número de Patentes	Derwent
2	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; P14 (Animal care)
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)

OBS – 10 patentes não apresentam classificação

- **Tendência de patenteamento da empresa INCYTE**

Conforme tabela acima, 10% de suas patentes, ou seja, 41, estão correlacionadas nas classes B04 e D16.

As patentes da empresa Incyte refletem, além do escopo amplo em termos das categorias D, T, e P , abrangência expressiva atendendo não só diabetes, mas outras doenças como AIDS, câncer, infarte do miocárdio, dentre outras.

Os títulos apontam para, por exemplo, polipeptídeos, polinucleotídeos, proteína –G e protease.

- **Títulos das 41 patentes**

- Human G-protein coupled receptor polypeptides and polynucleotides for diagnosing, preventing or treating cell proliferative, cardiovascular, autoimmune/inflammatory, metabolic disorders and viral infections
- Human cell cycle and proliferation proteins and polynucleotides are used to treat, diagnose and prevent immune, developmental and cell signaling disorders and cell proliferative disorders including cancer
- Isolated NAMO polypeptides and polynucleotides, useful for the diagnosis, prevention and treatment of neurological, autoimmune, inflammatory and cell proliferative disorders
- Isolated human G-protein coupled receptor polypeptides and the use of these sequences in the diagnosis, treatment and prevention of diseases and in the assessment of exogenous compounds on the expression of the receptors
- Isolated polynucleotide encoding human preproneurotensin/neuromedin N is used in the diagnosis, treatment and prevention of cell proliferative, neurological and endocrine disorders
- Isolated polypeptides and polynucleotides involved in cell differentiation are used for treatment, prevention and diagnosis of cell proliferative, developmental and neurological disorders e.g. cancer and Alzheimer's disease
- New carbohydrate metabolism enzymes (CME) for treating, diagnosing and preventing diseases or conditions associated with the aberrant CME expression e.g. diabetes, obesity, atopic dermatitis, Grave's disease or cancer
- New human G-protein coupled receptor polypeptides for diagnosing, preventing, and treating cell proliferative, neurological, cardiovascular, gastrointestinal, autoimmune and metabolic disorders
- New human RNA metabolism protein for diagnosing or treating nervous system disorders, autoimmune/inflammatory disorders, cell proliferative disorders and developmental disorders
- New human drug metabolizing enzyme polypeptide and polynucleotide useful for diagnosing, treating and preventing cell proliferative, autoimmune/inflammatory, endocrine, eye, metabolic and gastrointestinal disorders

- New human drug metabolizing enzymes and polynucleotides encoding the enzyme for diagnosing, preventing or treating cell proliferative, autoimmune/inflammatory, endocrine, eye, metabolic and gastrointestinal disorders
- New human enzymes involved in glycoprotein and glycolipid metabolism, useful in diagnosis, prevention or treatment of cell proliferative disorder, carbohydrate metabolism disorder, or genetic or transport disorder
- New human extracellular matrix and cell adhesion molecules and polynucleotide sequences encoding them, useful for diagnosis, prevention, treatment of genetic, autoimmune and cell proliferative disorders
- New human polypeptides associated with reproduction, for treating and preventing reproductive, cell proliferative, endocrine, immune, infectious, metabolic and developmental disorders
- New human secreted proteins for treating, diagnosing or preventing cell proliferative, cardiovascular, autoimmune/inflammatory, neurological and developmental disorders
- New human serine dehydratase homolog polypeptide, useful for diagnosis, prevention and treatment of disorders of metabolism such as diabetes, cystic fibrosis, obesity and cancer
- New human synthetases, useful for diagnosing, preventing and treating immune disorders, neuronal disorders, reproductive disorders, and cell proliferative disorders such as cancer
- New polynucleotide encoding autoantigen-like protein, useful for diagnosis, prevention and treatment of e.g. immune disorders, acquired immunodeficiency syndrome, asthma, anemia, atherosclerosis, Grave's diseases, infections and cancer
- New polypeptides, useful for diagnosing, treating or preventing disorders of growth and development, cardiovascular and lipid, and diseases such as cancer, comprise human kinase polypeptides
- New protease (inhibitors) useful for diagnosis and treatment of autoimmune/inflammatory disorders such as acquired immunodeficiency syndrome, Cushing's disease, Addison's disease and cell proliferative disorders such as cancer
- New purified proteases and polynucleotides, useful for diagnosing, treating or preventing disorders of gastrointestinal, cardiovascular, cell proliferative, developmental, epithelial, neurological and reproductive systems
- New transporters and ion channels (TRICH) polypeptides, useful for diagnosing, preventing, and treating disorders associated with an abnormal expression or activity of TRICH, e.g. immunological, muscular or renal disorders
- Novel G-protein coupled receptor protein and polynucleotides useful for diagnosing, treating or preventing disorders of cell proliferation e.g. cancer, neurological and genetic disorder e.g. thalassemia
- Novel G-protein coupled receptors and polynucleotides useful for diagnosis, treatment and prevention of disorders of cell proliferation, neurological, cardiovascular, metabolic disorders and viral infections
- Novel beta-alanine-pyruvate amino transferase polypeptide, useful for screening compounds for effectiveness as agonist or antagonist of the polypeptide, and purifying a molecule that binds to the polypeptide
- Novel drug metabolizing enzymes and polynucleotides encoding the enzymes, useful for treating, diagnosing or preventing autoimmune/inflammatory, cell proliferative, developmental and endocrine disorders
- Novel human enzyme, NZMS useful in diagnosis, prevention or treatment of cell proliferative, autoimmune/inflammatory, cardiovascular, gastrointestinal, neurological, pulmonary, reproductive and eye disorders
- Novel human kinase and phosphatase polypeptide, useful in diagnosis, prevention or treatment of cardiovascular, immune system, neurological, growth, developmental, lipid and cell proliferative disorders
- Novel human neurotransmitter transporter polypeptides and polynucleotides for diagnosing, preventing or treating transport, neurological and psychiatric disorders and for identifying modulators of therapeutic use

Novel human oxidoreductase protein (ORP) useful for diagnosing, treating and preventing cell proliferative, neurological, viral, reproductive and autoimmune/inflammatory disorders associated with abnormal expression of ORP

- Novel human protein modification and maintenance polypeptide, useful in diagnosis, prevention and treatment of gastrointestinal, cardiovascular, autoimmune/inflammatory, developmental, and neurological disorders
- Novel human secretion and trafficking polypeptide, useful in diagnosis, prevention and treatment of vesicle trafficking, transport, neurological, autoimmune/inflammatory, and cell proliferative disorders
- Novel human transporter and ion channel proteins useful for treating and preventing transport, neurological, muscle and immunological disorders
- Novel human vesicle trafficking proteins useful for treating and preventing vesicle trafficking disorders, autoimmune/inflammatory disorders and cancers
- Novel isolated human transporter and ion channel (TRICH-1) polypeptide, useful for treating and preventing transport disorders e.g. ataxia telangiectasia, diabetes mellitus, myasthenia gravis, diabetes insipidus
- Novel polypeptide of human lipid associated molecule, useful for diagnosing, treating and preventing cancer, hypercholesterolemia, cirrhosis, myocardial infarction, Parkinson's disease, asthma, psoriasis, gastritis
- Novel polypeptide, useful for diagnosing, treating or preventing disorders of growth and development, immune system, neurological and cell proliferation diseases, comprises cancer protein phosphatase polypeptides
- Polynucleotides encoding human prostate associated Ets proteins, useful for preventing, diagnosing and treating, e.g. cancer, diabetes, psoriasis and dwarfism
- Polypeptides of human transporters and ion channels, useful for diagnosing, treating or preventing disorders of transport, neurological, muscle, immunological and cell proliferative disorders
- Polypeptides of human transporters and ion channels, useful for diagnosing, treating or preventing transport, neurological, muscle, immunological and cell proliferative disorders
- Purified Human S-adenosyl-L-methionine methyltransferase, useful for preventing, diagnosing and treating neoplastic immunological disorders and disorders of vesicle trafficking

II. CARDIOVASCULAR

- **Principal Categoria**

Diagnóstico tratamento e prevenção - 394 patentes

- **Empresa principal**

HUMAN GENOME SCI INC - 149 patentes.

- **Principais classificações**

B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering. – 126 patentes (84,6%)

# Records	Derwent class - Todos
126	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.
17	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; S03 (Scientific Instrumentation, photometry, calorimetry)
2	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; D13 (Other foodstuffs and treatment)
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); C03 (Other organic or inorganic compounds and multi- component mixtures); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; D13 (Other foodstuffs and treatment); D22 (Sterilising, bandages, dressing and skin- protection agents)
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); C06 (Biotechnology, plant genetics, veterinary vaccines); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); C06 (Biotechnology, plant genetics, veterinary vaccines); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.; S03 (Scientific Instrumentation, photometry, calorimetry)
1	P14 (Animal care); B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering.

- **Foco de patenteamento da Human Genome - Classes B04 e D16**

    - Isolamento de ácido nucléico
    - Fusão de albumina e proteína – contra rejeição e para infarto.
    - Patentes atingem mais de 1 doença.

- **Título das 126 patentes das classes B04 e D16**

- 17 isolated nucleic acid molecules encoding human secreted proteins, used to preventing, treating or ameliorating a medical condition
- Albumin fusion proteins comprising a therapeutic protein and albumin, useful in the treating immune system disorders (e.g. transplant rejection), blood related disorders (e.g. myocardial infarction) and hyperproliferative disorders
- Albumin fusion proteins comprising a therapeutic protein and albumin, useful in the treating immune system disorders (e.g. transplant rejection), blood related disorders (e.g. myocardial infarction) and hyperproliferative disorders
- Albumin fusion proteins comprising a therapeutic protein and albumin, useful in the treating metastatic renal cell carcinoma, metastatic melanoma, malignant melanoma, renal cell carcinoma, HIV (human immunodeficiency virus) or infection
- Albumin fusion proteins comprising a therapeutic protein and albumin, useful in the treating metastatic renal cell carcinoma, metastatic melanoma, malignant melanoma, renal cell carcinoma, HIV (human immunodeficiency virus) or infection
- Forty five bladder related polynucleotides, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases
- Forty nucleic acid molecules encoding human secreted proteins, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases
- Four disulfide core domains (FDCD) containing polypeptide and its polynucleotide are used to prevent, treat or ameliorate a medical condition associated with FDCD e.g. skin disorders
- Human secreted polypeptides and polynucleotides for diagnosing, prognosing, preventing and treating immune, hyperproliferative, liver, kidney, and reproductive disorders and for identifying their modulators for therapeutic use
- Isolated nucleic acid encoding a human G-protein chemokine receptor (CCR5) HDGNR10 polypeptide, useful for preventing or treating autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative disorders and neurodegenerative disorders
- Isolated nucleic acid encoding a human G-protein chemokine receptor (CCR5) HDGNR10 polypeptide, useful for preventing or treating autoimmune diseases e.g. rheumatoid arthritis, hyperproliferative disorders and neurodegenerative disorders
- Isolated nucleic acid molecule encoding a calcium-binding protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a channel/transporter protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a human liver related protein is used in preventing, treating or ameliorating disorders of the liver particularly cancer of the liver
- Isolated nucleic acid molecule encoding a human protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a human secreted protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a human secreted protein is used in preventing, treating or ameliorating a medical condition

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- Isolated nucleic acid molecule encoding a human secreted protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a human secreted protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a human tranferrin protein is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a lung cancer antigen is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a novel Kunitz-Type Protease Inhibitor protein is used in preventing, treating or ameliorating a medical condition associated with the protein
- Isolated nucleic acid molecule encoding a reproductive system antigen is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding a seven transmembrane receptor is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding an inflammation-associated polypeptide is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding excretory system antigen is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecule encoding protease inhibitors is used in preventing, treating or ameliorating a medical condition
- Isolated nucleic acid molecules encoding novel ovarian polypeptides, useful in the prevention, treatment and diagnosis of cancer (e.g. ovarian cancer), immune disorders, cardiovascular disorders and neurological diseases
- Isolated nucleic acids encoding 21 secreted proteins useful for the diagnosis and treatment of e.g. cancer, HIV infection, stroke and rheumatoid arthritis
- Isolated nucleic acids encoding 23 secreted proteins useful for the diagnosis and treatment of e.g. cancer, HIV infection, stroke and rheumatoid arthritis.
- Isolated nucleic acids encoding human B7-like polypeptides, useful for diagnosis and treatment of e.g. inflammation, cancer, immune disorders such as Addison's disease, and cardiovascular disorders such as myocardial ischemias
- Isolated nucleic acids encoding human and murine peptidoglycan recognition protein-related liver (PGRP-L) proteins, useful for preventing or treating autoimmune diseases e.g. rheumatoid arthritis, and hyperproliferative disorders
- Isolated polypeptide for treating, preventing and/ or prognosing disorders related to the musculoskeletal system including musculoskeletal cancers and also for testing and detection e.g. diagnosis

- New cardiovascular system related polynucleotides and polypeptides, useful for diagnosing, treating and/or preventing disorders of the cardiovascular system
- New death-domain containing receptor polynucleotides and polypeptides, useful for treating and diagnosing cancer
- New human protein tyrosine phosphatase polypeptide useful for treatment of disorders including disorder of the nervous system
- New human proteins, useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cardiovascular disorders, autoimmune disorders and reproductive disorders
- New isolated human secreted protein for diagnosing, preventing, treating or ameliorating medical conditions and used as a food additive or preservative
- New isolated kringle domain containing polypeptide for treating cancer, atherosclerosis, angina, acquired immunodeficiency syndrome (AIDS), rheumatoid arthritis, asthma, sepsis, acne, and psoriasis
- New isolated nucleic acid encoding a protein for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives
- New isolated nucleic acid encoding one of four trefoil domain- containing proteins for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives
- New isolated nucleic acid molecule encoding a human secreted protein is used in preventing, treating or ameliorating a medical condition
- New isolated nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders
- New isolated nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders
- New isolated nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders
- New isolated nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders
- New isolated ovarian and/or breast cancer related nucleic acids and polypeptides, useful for diagnosing, treating and/or preventing human diseases and disorders, particularly ovarian and/or breast cancer
- New nucleic acid encoding a soluble human steroid hormone receptor and its associated polypeptides and antibodies, useful for the diagnosis, prevention, treatment and amelioration of e.g. (auto)immune diseases and cancers
- New nucleic acid encoding one of 21 human secreted proteins for diagnosing, preventing, treating or ameliorating medical conditions, such as autoimmune disease and cancer, and used as a food additive or preservative
- New nucleic acid molecule encoding a human secreted protein, useful for preventing, treating or ameliorating medical conditions such as rheumatoid arthritis, Alzheimer's disease and microbial infections
- New nucleic acid molecule encoding human secreted prostate cancer antigens, useful for the diagnosis and treatment of disorders such as cancer, leukemia and autoimmune disease
- New nucleic acid molecules encoding 2 human secreted proteins for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives
- New nucleic acid molecules encoding 21 human secreted proteins for diagnosing or treating e.g. autoimmune diseases, hyperproliferative disorders, and cardiovascular disorders, and used as food additives or preservatives
- New nucleic acid molecules encoding 22 human secreted proteins for diagnosing or treating e.g. autoimmune diseases, hyperproliferative disorders, and cardiovascular disorders, and used as food additives or preservatives
- New nucleic acid molecules encoding 28 human secreted proteins for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives

- New nucleic acid molecules encoding 461 human secreted proteins for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives
- New nucleic acid molecules encoding 49 human secreted proteins for diagnosing, preventing, treating or ameliorating medical conditions and used as food additives or preservatives
- New nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers
- New nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers
- New nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers
- New nucleic acid molecules encoding human serine protease polypeptides, useful for diagnosis, prevention and/or treatment of disorders e.g. osteoporosis, lupus erythematosus and Alzheimer's
- New nucleic acids encoding extracellular matrix polypeptides, for diagnosing, treating, preventing or ameliorating human disorders and disease, such as, autoimmune, hyperproliferative or cardiovascular disorders
- New pancreatic related polynucleotides and polypeptides, useful for diagnosing, treating or preventing pancreatic disorders and diseases
- New polynucleotides and polypeptides for diagnosing, treating, preventing or prognosing e.g. diseases or disorders of the nervous, musculoskeletal, excretory, gastrointestinal, reproductive, and respiratory systems
- New polynucleotides and polypeptides useful for diagnosing, prognosing, treating or preventing e.g. neurodegenerative, central nervous system, autoimmune, respiratory, reproductive, or inflammatory diseases or disorders
- New polynucleotides and polypeptides, useful for diagnosing, treating, preventing or prognosing e.g. kidney, cardiovascular, blood, electrolyte imbalance or neoplastic disorders, autoimmune diseases, cancers
- New polynucleotides and polypeptides, useful for diagnosing, treating, preventing or prognozing inflammatory, neural, immune system, muscular, reproductive, pulmonary, cardiovascular or proliferative disorders, or cancer
- Novel 71 isolated secreted polypeptides and polynucleotides encoding the polypeptides, useful for treating Huntington's disease, sepsis, meningitis, thrombocytopenia, hemolytic anemia, rheumatoid arthritis, asthma
- Novel composition useful for treating or protecting neural cells, for treating Addison's disease, organ rejection, hyperproliferative disorder, cancer, AIDS, multiple sclerosis, comprises stanniocalcin polypeptide
- Novel human secreted proteins useful for treating immune system e.g. anemia, cardiovascular e.g. myocardial infarction, neurological disorders e.g. Alzheimer's disease, Parkinson's disease
- Novel isolated human cytoskeletal element-related polypeptide useful for diagnosis/treatment of neoplastic disorders, disorders associated with neural transmission, chromosomal abnormalities, autoimmune disorders
- Novel isolated human ovarian related polypeptide useful for diagnosis/treatment of disorders of ovary and breast such as neoplastic disorders, infectious diseases, inflammatory diseases, and reproductive disorders
- Novel isolated prostate gland related polypeptide useful for diagnosis and treatment of disorders of prostate such as prostatodystonia, prostatosis, prostatitis, benign prostatic hypertrophy and malacoplakia
- Novel isolated protein tyrosine phosphatase polypeptide useful for treating and preventing Alzheimer's disease, rheumatoid arthritis, Grave's disease, arrhythmias, neoplasms, multiple sclerosis and diabetes mellitus
- Novel multimeric human tumor necrosis factor delta or epsilon protein useful for treating cancer, immune system disorders, infection, cardiovascular disorders, liver disease, cardiomyopathy, diabetes and psoriasis

- Novel plasma membrane associated proteins useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cancer, immune response and neuronal disorders
- Novel polynucleotides and polypeptides useful for treating, preventing or ameliorating cardiovascular, renal, neurovascular, and autoimmune disorders
- Novel polypeptide homologous to G-protein coupled receptor overexpressed in prostate cancer useful for treating diseases and disorders of prostate e.g. cancer, Goodpasture's syndrome, ataxia telangiectasia, prostatitis
- Novel polypeptides and polynucleotides useful as diagnostic reagents to diagnose diseases or disorders associated with aberrant expression or activity of polypeptides, and for treating cancers, rheumatoid arthritis
- Novel polypeptides and polynucleotides useful as diagnostic reagents to diagnose diseases or disorders associated with polypeptides and for treating autoimmune diseases e.g., multiple sclerosis, rheumatoid arthritis
- Novel polypeptides and polynucleotides useful for diagnosing, preventing, treating neural, immune system, muscular, reproductive, pulmonary, cardiovascular, renal, proliferative disorders and cancerous diseases
- Novel proteins and nucleic acid molecules useful for diagnosis, prevention, treatment of neural, immune system, muscular, reproductive, pulmonary, cardiovascular, renal, proliferative disorders and cancerous diseases
- Novel proteins of serine/threonine phosphatase family, useful for diagnosing, treating, preventing and/or prognosing disorders related to the proteins, including cancer, immune response and neuronal disorders
- Novel secreted and membrane-associated polypeptides and polynucleotides encoding the polypeptides, useful for preventing, treating and ameliorating cancers, mental disorders and cardiovascular disorders
- Nucleic acid encoding a TRID polypeptide, also referred to as tumor necrosis factor receptor 5, useful in the diagnosis, treatment or prevention of cancer, autoimmune disorders and viral infection
- Nucleic acid encoding a tumor necrosis factor receptor 10, useful in the diagnosis, treatment or prevention of cancer, autoimmune disorders, and diseases and disorders associated with apoptosis
- Nucleic acid molecules encoding ATP-binding cassette transporter proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and rheumatoid arthritis
- Nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers
- Nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers
- Nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers
- Nucleic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's diseases and cancers
- Nucleic acid molecules encoding tumor necrosis factor ligands, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's disease and rheumatoid arthritis
- Nucleic acids encoding 13 human colon cancer associated polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers (especially colon cancer), Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 15 human polypeptides, useful for preventing, diagnosing and/or treating DiGeorge syndrome, Sezary Syndrome, Scimitar Syndrome and Crohn's disease
- Nucleic acids encoding 18 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 2 human cytokine receptor-like polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, cardiovascular and immune disorders

- Nucleic acids encoding 207 human secreted polypeptides, useful for preventing, diagnosing and/or treating, e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 24 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. Gaucher's disease, Alzheimer's disease, Scimitar syndrome, Creutzfeldt-Jacob disease, diabetes mellitus and multiple sclerosis
- Nucleic acids encoding 25 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. Gaucher's disease, Alzheimer's disease, Scimitar syndrome, Creutzfeldt-Jacob disease, diabetes mellitus and multiple sclerosis
- Nucleic acids encoding 25 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 26 human secreted polypeptides, useful e.g. for preventing, diagnosing and/or treating cancers and for promoting wound healing
- Nucleic acids encoding 29 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 32 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 35 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 37 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 38 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 41 human polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 42 human secreted polypeptides, useful for preventing, diagnosing and/or treating immune, hyperproliferative, cardiovascular and neurological disorders or infectious diseases
- Nucleic acids encoding 43 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 47 human secreted polypeptides, useful for preventing, diagnosing and/or treating e.g. cancers, Parkinson's disease and diabetic retinopathy
- Nucleic acids encoding 50 human secreted polypeptides, useful for preventing, diagnosing and/or treating diseases, e.g. Parkinson's disease, botulism, cancers and Scimitar syndrome
- Nucleic acids encoding follistatin-3, useful for the prevention, diagnosis and treatment of e.g. arthritis, liver cirrhosis and Gaucher's disease
- Nucleic acids encoding human Bcl-2-like polypeptides, useful for preventing, diagnosing and/or treating
- Nucleic acids encoding retinoid receptor interacting protein polypeptides, useful for the prevention, diagnosing and treatment of, e.g. cardiovascular, pulmonary and cancerous conditions
- Nucleic acids encoding serine/threonine phosphatase polypeptides, useful for preventing, diagnosing and/or treating, e.g. Crohn's disease, lung cancer and Scimitar syndrome
- Polynucleotides encoding digestive system antigens, useful for diagnosing, treating, preventing and/or prognozing disorders of the digestive system, particularly cancer and cancer metastases
- Seventeen nucleic acid molecules encoding human secreted proteins, useful for treating and preventing cancer, immune disorders (e.g. Addison's disease, and allergies), and cardiovascular disorders (e.g. myocardial ischemias)
- Twenty nine nucleic acid molecules encoding human cancer associated proteins, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases

III. CÂNCER

- **Principal categoria**

Diagnóstico tratamento e prevenção – 1085 patentes

- **Empresa principal**

INCYTE GENOMICS INC (INCY-Non-standard) – 140 patentes

- **Principais classificações**

Número de Patentes	Derwent class - Todos
70	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
28	P14 (Animal care); B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering); S03 (Scientific Instrumentation, photometry, calorimetry)
17	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering); S03 (Scientific Instrumentation, photometry, calorimetry)
4	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); C06 (Biotechnology, plant genetics, veterinary vaccines); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
4	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering); P14 (Animal care)
3	P14 (Animal care); B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering)
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA)
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering); S03 (Scientific Instrumentation, photometry, calorimetry); P14 (Animal care)
1	B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); S03 (Scientific Instrumentation, photometry, calorimetry)
1	P13 (Plant culture, dairy products); P14 (Animal care); B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering); S03 (Scientific Instrumentation, photometry, calorimetry)

B04 (Pharmaceuticals or veterinary compounds of unknown structure, testing of microorganisms for pathogenicity, testing of chemicals for mutagenicity or human toxicity and fermentative production of DNA or RNA); D16 (Fermentation industry – including production of pharmaceuticals , vaccines and antibodies, cell and tissue culture and genetic engineering) – **70 patentes**

- **Foco de patenteamento da Incyte Genome - Classes B04 e D16**

  - As patentes desta categoria que é mais ampla (T, D, P) também se referem a mais de uma doença.
  - Polipeptídeo
  - Polinucleotídeo
  - Proteína Kinase
  - Novas enzimas humanas

- **Título das 70 patentes das classes B04 e D16**

- A new human nucleolin-like protein is useful to diagnose, treat or prevent diseases associated with expression of the protein including cancer, autoimmune disorders and Alzheimer's disease
- Cellular junction PDZ proteins useful in the prevention, diagnosis and treatment of disorders associated with defective cell signaling such as cancers, neurological disorders and developmental disorders such as William's syndrome
- Forty four human secreted proteins (referred to as SECP-1 to SECP-44), useful in the diagnosis, treatment and prevention of cardiovascular (e.g. atherosclerosis), autoimmune/inflammatory (e.g. allergies) and cell proliferative disorders
- Human G-protein coupled receptor polypeptides and polynucleotides for diagnosing, preventing or treating cell proliferative, cardiovascular, autoimmune/inflammatory, metabolic disorders and viral infections
- Human cell cycle and proliferation proteins and polynucleotides are used to treat, diagnose and prevent immune, developmental and cell signaling disorders and cell proliferative disorders including cancer
- Human cytoskeleton-associated protein, useful in diagnosis, prevention or treatment of cell proliferative disorders, viral infections and neurological disorders
- Human kinases and nucleic acids, useful for preventing diagnosing and treating cancers, inflammation and immune disorders
- Human protein kinase proteins and homologs, useful for preventing, diagnosing and treating cancers, autoimmune/inflammatory disorders and reproductive disorders
- Isolated human G-protein coupled receptor polypeptides and the use of these sequences in the diagnosis, treatment and prevention of diseases and in the assessment of exogenous compounds on the expression of the receptors
- Isolated human isomerase protein for diagnosing, treating or preventing psoriasis, cancers, acquired immune deficiency syndrome, asthma, Goodpasture's syndrome, gout, multiple sclerosis and rheumatoid arthritis
- Isolated polynucleotide encoding human preproneurotensin/neuromedin N is used in the diagnosis, treatment and prevention of cell proliferative, neurological and endocrine disorders
- Isolated polypeptides and polynucleotides involved in cell differentiation are used for treatment, prevention and diagnosis of cell proliferative, developmental and neurological disorders e.g. cancer and Alzheimer's disease
- Lipid Metabolism Enzymes and nucleic acids, useful for preventing, diagnosing and treating e.g. cancer, Alzheimer's disease and Creutzfeld-Jakob disease
- Lipid metabolism molecules useful in diagnosing, treating or preventing cancers, and neurological , autoimmune/inflammatory, gastrointestinal, skin and cardiovascular disorders
- New NHC-2 polynucleotides and polypeptides useful for diagnosing, preventing, or treating cancers, inflammation, allograft rejection, neurodegenerative diseases, and conditions affecting pregnancy, growth and development
- New carbohydrate metabolism enzymes (CME) for treating, diagnosing and preventing diseases or conditions associated with the aberrant CME expression e.g. diabetes, obesity, atopic dermatitis, Grave's disease or cancer

- New human G-protein coupled receptor polypeptides for diagnosing, preventing, and treating cell proliferative, neurological, cardiovascular, gastrointestinal, autoimmune and metabolic disorders
- New human RNA metabolism protein for diagnosing or treating nervous system disorders, autoimmune/inflammatory disorders, cell proliferative disorders and developmental disorders
- New human chaperone proteins and polynucleotides, useful in diagnosing, treating and preventing reproductive, eye, neuromuscular, metabolic, autoimmune or inflammatory disorders
- New human drug metabolizing enzyme polypeptide and polynucleotide useful for diagnosing, treating and preventing cell proliferative, autoimmune/inflammatory, endocrine, eye, metabolic and gastrointestinal disorders
- New human drug metabolizing enzymes and polynucleotides encoding the enzyme for diagnosing, preventing or treating cell proliferative, autoimmune/inflammatory, endocrine, eye, metabolic and gastrointestinal disorders
- New human enzymes involved in glycoprotein and glycolipid metabolism, useful in diagnosis, prevention or treatment of cell proliferative disorder, carbohydrate metabolism disorder, or genetic or transport disorder
- New human extracellular matrix and cell adhesion molecules and polynucleotide sequences encoding them, useful for diagnosis, prevention, treatment of genetic, autoimmune and cell proliferative disorders
- New human goose-type lysozyme polypeptide, useful for diagnosing, treating or preventing autoimmune or inflammatory, renal or adrenal disorders and cancer
- New human integrins and polynucleotides encoding the enzymes, useful for treating, diagnosing or preventing autoimmune/inflammatory, cell proliferative, developmental and neurological disorders
- New human kinase polypeptide, useful in diagnosis, prevention and treatment of cancer, immune disorder, growth and developmental disorder, cardiovascular disorder and lipid disorder
- New human kinases, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. epilepsy), or cell proliferative disorders (e.g. cancers such as leukemia or lymphoma)
- New human lipocalins and encoding polynucleotides, useful for diagnosing, treating or preventing e.g. cancer, neuronal (e.g. akathesia or Alzheimer's disease) or reproductive disorders (e.g. teratogenesis)
- New human protease polypeptide, useful in diagnosis, prevention and treatment of gastrointestinal, cardiovascular, autoimmune/inflammatory, cell proliferative, developmental, epithelial and neurological disorders
- New human serine dehydratase homolog polypeptide, useful for diagnosis, prevention and treatment of disorders of metabolism such as diabetes, cystic fibrosis, obesity and cancer
- New human synthetases, useful for diagnosing, preventing and treating immune disorders, neuronal disorders, reproductive disorders, and cell proliferative disorders such as cancer
- New isolated human lyase polypeptide for diagnosing, treating and preventing e.g. glaucoma, ocular hypertension, stroke, asthma, or gout
- New isolated polynucleotides encoding Ras proteins designated RASP-1 and RASP-4, for diagnosing, preventing and treating disorders associated with cell proliferation, particularly cancer and immune disorders
- New isolated polypeptide of the adenylyl and guanylyl cyclases (ADGUC), useful for diagnosing, preventing or treating a disease or condition associated with decreased expression of ADGUC e.g. Parkinson's disease or cardiomyopathy
- New lipid metabolism enzymes, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders (e.g. cancers)
- New polynucleotide encoding a tapasin-like protein is useful for treating or preventing conditions, diseases or disorders associated with expression of the gene, such as cancer, and immune and reproductive disorders
- New polynucleotide encoding autoantigen-like protein, useful for diagnosis, prevention and treatment of e.g. immune disorders, acquired immunodeficiency syndrome, asthma, anemia, atherosclerosis, Grave's diseases, infections and cancer
- New polynucleotide encoding human ubiquitin-conjugating enzyme, useful e.g. for treatment, prevention and diagnosis of cancer, or autoimmune and neuronal disease
- New polypeptides of human transcription factors and zinc finger proteins for diagnosing, treating or preventing disorders of neurological, immunological and cell proliferative disorders
- New polypeptides, useful for diagnosing, treating or preventing disorders of growth and development, cardiovascular and lipid, and diseases such as cancer, comprise human kinase polypeptides
- New protease (inhibitors) useful for diagnosis and treatment of autoimmune/inflammatory disorders such as acquired immunodeficiency syndrome, Cushing's disease, Addison's disease and cell proliferative disorders such as cancer

- New protein phosphatases, useful for diagnosing, treating or preventing immune system disorders (e.g. Crohn's disease), neurological disorders (e.g. Parkinson's disease), or cell proliferative disorders (e.g. cancers)
- Novel G-protein coupled receptor protein and polynucleotides useful for diagnosing, treating or preventing disorders of cell proliferation e.g. cancer, neurological and genetic disorder e.g. thalassemia
- Novel G-protein coupled receptors and polynucleotides useful for diagnosis, treatment and prevention of disorders of cell proliferation, neurological, cardiovascular, metabolic disorders and viral infections
- Novel beta-alanine-pyruvate amino transferase polypeptide, useful for screening compounds for effectiveness as agonist or antagonist of the polypeptide, and purifying a molecule that binds to the polypeptide
- Novel drug metabolizing enzymes and polynucleotides encoding the enzymes, useful for treating, diagnosing or preventing autoimmune/inflammatory, cell proliferative, developmental and endocrine disorders
- Novel human aminoacyl tRNA synthetases and polynucleotides encoding the enzymes, useful for treating, diagnosing or preventing autoimmune/inflammatory and cell proliferative disorders
- Novel human cyclin nucleotide phosphodiesterase proteins, useful for treating disorders associated with the expression of the protein, e.g. cancer, immune disorders, and adenofibromatous hyperplasia of the prostate
- Novel human cytokine signal regulator polypeptides for preventing and treating disorders associated with expression of the polypeptide, such as cell proliferative disorders, cancer, immune disorders and infections
- Novel human disease detection and treatment polypeptide, useful in diagnosis, prevention or treatment of cell proliferative disorders e.g. arteriosclerosis, cirrhosis and an autoimmune/inflammatory disorder e.g. AIDS
- Novel human enzyme, NZMS useful in diagnosis, prevention or treatment of cell proliferative, autoimmune/inflammatory, cardiovascular, gastrointestinal, neurological, pulmonary, reproductive and eye disorders
- Novel human kinase and phosphatase polypeptide, useful in diagnosis, prevention or treatment of cardiovascular, immune system, neurological, growth, developmental, lipid and cell proliferative disorders
- Novel human lyase proteins (HLYAP) useful for diagnosing, treating and preventing neurological, reproductive, cell proliferative and inflammatory disorders associated with abnormal expression of HLYAP
- Novel human neurotransmitter transporter polypeptides and polynucleotides for diagnosing, preventing or treating transport, neurological and psychiatric disorders and for identifying modulators of therapeutic use
- Novel human oxidoreductase protein (ORP) useful for diagnosing, treating and preventing cell proliferative, neurological, viral, reproductive and autoimmune/inflammatory disorders associated with abnormal expression of ORP
- Novel human protein modification and maintenance polypeptide, useful in diagnosis, prevention and treatment of gastrointestinal, cardiovascular, autoimmune/inflammatory, developmental, and neurological disorders
- Novel human secretion and trafficking polypeptide, useful in diagnosis, prevention and treatment of vesicle trafficking, transport, neurological, autoimmune/inflammatory, and cell proliferative disorders
- Novel human short chain dehydrogenase enzymes useful for the diagnosis, prevention and treatment of disorders associated with abnormal expression of the enzyme, such as immune disorders and cancer
- Novel human transmembrane proteins and polynucleotides useful for diagnosing, treating or preventing infertility, anemia, hypertension, anorexia, hypercholesterolemia, cancer, gout, Grave's disease
- Novel human vesicle trafficking proteins useful for treating and preventing vesicle trafficking disorders, autoimmune/inflammatory disorders and cancers
- Novel mammalian aspartyl proteases useful for characterizing, diagnosing, treating, preventing Alzheimer's disease and down syndrome associated with altered expression of the aspartyl protease
- Novel nucleic acid or its fragment encoding human NIM1 kinase, useful for detecting and quantifying altered gene expression that leads to disorders such as Alzheimer's disease amnesia, anxiety, epilepsy, leukemia
- Novel polypeptide of human lipid associated molecule, useful for diagnosing, treating and preventing cancer, hypercholesterolemia, cirrhosis, myocardial infarction, Parkinson's disease, asthma, psoriasis, gastritis
- Novel polypeptide, useful for diagnosing, treating or preventing disorders of growth and development, immune system, neurological and cell proliferation diseases, comprises cancer protein phosphatase polypeptides
- Novel secreted oxidase protein polypeptides and polynucleotides useful for diagnosing, treating or preventing disorders of cell proliferation e.g. cancer, neurological and genetic disorder e.g. thalassemia
- Polynucleotides encoding human prostate associated Ets proteins, useful for preventing, diagnosing and treating, e.g. cancer, diabetes, psoriasis and dwarfism
- Polypeptides of human PAS domain proteins and polynucleotides useful for diagnosing, treating or preventing disorders of cell proliferative disorders, developments, cardiovascular and neurological disorders
- Purified Human S-adenosyl-L-methionine methyltransferase, useful for preventing, diagnosing and treating neoplastic immunological disorders and disorders of vesicle trafficking

- Twelve human receptors (referred to as REPTR-1 to REPTR-12), useful in the diagnosis, treatment and prevention of gastrointestinal (e.g. gastritis), autoimmune/inflammatory (e.g. osteoarthritis) and cell proliferative (e.g. cancer)disorders
- Twenty one human proteases (referred to as PRTS-1 to PRTS-21), useful in the diagnosis, treatment and prevention of gastrointestinal (e.g. gastritis), cardiovascular (e.g. atherosclerosis) and cell proliferative (e.g. cancer)disorders

INFECTO-CONTAGIOSA

- **Principal categoria**

Tratamento e prevenção – 207 documentos, 27,7% do total de patentes de biotecnologia referentes a doença.

- **Empresa principal**

Curagen com 6 patentes.

- **Foco de patenteamento da Curagen**

  - Tratamento e prevenção de várias doenças como, cardiovasculares, neurológicas, esclerose múltipla, câncer diabetes e outras.
  - Novos polipeptídeos NOVX

- **Títulos 6 patentes CURAGEN**

- New NOVX polypeptides and polynucleotides useful for treating or preventing e.g. neurodegenerative diseases, neurological disorders, cardiovascular diseases, muscular diseases and disorders, or immunological diseases
- New isolated activated T lymphocyte associated sequences for treating or preventing immune system associated disorders such as autoimmune disorder, immune disorder, and T-lymphocyte-associated disorder
- Novel G-protein coupled receptor proteins (GPCR1-GPCR-7) useful for treating or preventing, e.g., cardiomyopathy, atherosclerosis, hypertension, acquired immune deficiency syndrome, bronchial asthma, Crohn's disease, and multiple sclerosis
- Novel isolated NOVX polypeptides and polynucleotides homologous to attractin, plexin, papin-like family of proteins, useful for treating atherosclerosis, diabetes, cancer, Alzheimer's disease, hemophilia and stroke
- Novel polypeptides designated as NOVX polypeptides, useful in detection, prevention and treatment of e.g. Parkinson's disease and Cancer
- Novel polypeptides termed PTMAX, and nucleic acids encoding PTMAX, useful for detecting and treating diseases caused immune deficiencies

OBS: No caso das infecto-contagiosasaparecem também 6 patentes da US Dept Health & Human Services cuja tendência de patenteamento é diversificado.

DOENÇAS NEGLIGENCIADAS

I. LEISHMANIOSE- 35

- **Principal categoria**

Tratamento – 18 documentos de patente

- **Foco das 18 patentes**

Como são poucas patentes nesta doença estão listados os 18 títulos sendo diversificados, chamando a atenção que estas patentes não são dirigidas somente para a doença negligenciada leishmaniose aparecendo também malária, doença de chagas, herpes, câncer e tuberculose.

- **Titulos - todas as 18 patentes**

- Concentrate composition comprises tarrow root aqueous extract, Bai Yanang Leaf aqueous extract and iodine solution, used e.g. for treatment of acne or psoriasis
- Controlling Type I interferon expression level involves modulating level of interferon regulatory factor 7 or its functional analogue which is useful for treating human viral infections or cancer
- Identifying inhibitors of glycosylphosphatidylinositol anchoring, useful for screening fungicides and protozoacides, comprises detecting expression of reporter element operably linked to unfolded protein response element(s)
- Increasing Type 1 response and suppressing Type 2 response of lymphocytes by the addition of ribavirin, e.g. in the treatment of allergies, helminth infections, leishmaniasis and immunodeficiencies
- Mutant Mycobacterium tuberculosis complex cell with an inactivated recA function, useful as immunotherapeutic agents or vaccines for treating a disorder e.g. mycobacterial infection, tuberculosis, measles, herpes or cancer
- New antibodies specific for mouse or human cytokine synthesis inhibitory factor, useful for treating diseases associated with cytokine or immune system imbalances, e.g. tissue rejection, leishmaniasis or rheumatoid arthritis
- New compositions comprising a chitinase isolated from a tissue or soup of a carnivorous plant, useful for treating chitin-containing pathogen infections, e.g. fungal infections, or for reducing plant susceptibility to cold damage
- New immunomodulatory polynucleotide/microcarrier complex, useful for modulating the immune response of individuals, particularly humans, or for treating idiopathic pulmonary fibrosis, scleroderma, malaria or allergies
- New isolated polypeptide useful for treating diseases associated with cytokine imbalances, such as leishmaniasis and other parasitic infections
- New nucleic acid construct, useful for stage-regulated expression of polypeptides, comprises first nucleic acid sequence containing stage- regulated control sequence and second sequence encoding the polypeptide
- New nucleoside pyrophosphate and triphosphate analogs, useful for treating viral or bacterial infections, cancer, inflammatory and autoimmune diseases
- New suppressive macrophage activation factor proteins, SMAF-1 or SMAF-2 useful for the manufacture of medicament for treating type 1, type 2 or type 3 responses
- Suppressing humoral immune response in a patient for treating cytokine imbalance associated diseases, by administering antibody against human cytokine synthesis inhibitory factor or antagonists derived from antibody
- Treating bacterial, fungal and parasitic infections and immune disorders in a host by administering an immunomodulatory peptide

- Treating rheumatoid arthritis, a cell-mediated immune disorder or tissue rejection, comprising administering a mammalian cytokine synthesis inhibitory factor
- Use of 1-H-imidazo(4,5-c)quinolin-4-amine derivative with immunogen component in the manufacture of a medicament for enhancing immune responses initiated by an antigenic peptide
- Use of betel leaf extract is used to treat visceral leishmaniasis (kala-azar) in animals, including humans, by administering extract alone or together with additive
- Use of major OprI lipoprotein of Pseudomonas aeruginosa or its functional fragments as adjuvant to obtain a Th1 type immune response against heterologous antigen, for treating leishmaniasis, leprosy, allergic asthma

II. TUBERCULOSE

- **Principal categoria**

Tratamento – 143 documentos de patentes

- **Instituição principal da categoria**
-

Universidade da Califórnia com 6 patentes

Neste caso a liderança de patenteamento é de uma universidade conforme acima, e por se tratar de uma IES (instituição de ensino superior) a P&D é diversificada

- **Títulos**

- Attracting glial progenitor cell or its progeny to site of central nervous system tissue useful for treating e.g. Alzheimer's disease comprises administering compound that binds to epidermal growth factor receptor
- Increasing antigen-specific cytotoxic T lymphocyte activity in a CD4+ T cell deficient individual, useful to treat immunodeficiency and block HIV infection, comprises administering immunostimulatory nucleic acid
- New macrophage migration inhibitory factor polypeptide and polynucleotide encoding the polypeptide, useful as a vaccine for inducing an immune response to tick, or for treating tumor or cell proliferative disease
- Novel bacterial acyl glucosaminyl inositol amidase acting upon glucosaminyl inositol containing substrate, useful for increasing antibiotic production by antibiotic-producing bacteria and detoxifying toxic substances
- Treating infection of intracellular pathogen e.g., Mycobacterium, in a subject, involves administering immunomodulatory nucleic acid molecule to inhibit intracellular replication of intracellular pathogen
- Use of antisense compound comprising antisense polynucleotide that hybridizes to Mycobacterium tuberculosis glutamine synthetase polynucleotide, for inhibiting glutamine synthetase protein expression

III. MALÁRIA

- **Principal da categoria**

  Tratamento - 50

- **Empresa principal**

PHARMA PACIFIC PTY LTD (PHAR-Non-standard) – 5 patentes

- **Foco de patenteamento da Pharma Pacific**

  - Patentes abrangem mais de 1 doença
  - Isolamento de polipeptídeos por interferon

- Isolated ATP-dependent interferon responsive protein with immunomodulatory, anti-tumor and/or anti-viral activity, useful for treating e.g multiple sclerosis, leprosy, arthritis, encephalitis and lung cancer
- Isolated polypeptide, HuIFRG 70, useful for treating type I interferon (IFN)-treatable disease e.g., diabetes, leprosy, malaria, colon cancer, lupus and for predicting responsiveness to treatment with IFN-alpha
- Isolated polypeptides upregulated by interferon type 1 useful as an anti-viral, anti-tumor or immunomodulatory agent or for treating a type 1 interferon treatable disease
- New interferon-alpha induced polypeptide and genes, HuIFRG 15.4, useful in anti-viral or anti-tumor therapy, as immunomodulatory agent, or for treating e.g. neurodegenerative, parasitic or viral diseases, tuberculosis or malaria
- New isolated HuIFRG 28-1 protein which is upregulated by interferon alpha administration, for treating leprosy, malaria, and carcinoma

PARTE III

MEDICAMENTOS DA RENAME NA BASE DADOS *DERWENT WORLD PATENTS INDEX*

Com base na lista de medicamentos da RENAME foi realizada pesquisa na base Derwent World Patents Index nos anos 2001 e 2002 para localização destes medicamentos, em relação ao total da base. Os resultados são apresentados *vis a vis* as categorias e subcategorias da RENAME. Observando que as patentes relativas aos medicamentos não são necessariamente vinculadas às doenças. Cabe observar que seria necessário uma análise utilizando ferramentas *text mining* para indexar o medicamento à categoria/sub-categoria.

Constam da Base Derwent 1.410.835 documentos de Patentes em todas as áreas (2001-2002).

As tabelas (3 a 9) a seguir apresentam a frequência de patentes relacionadas às drogas constantes da lista da RENAME relativas às doenças deste estudo.

Tabela 3. Número de patentes relacionadas as drogas da RENAME (2001-2002)- cardiovasculares

CARDIOVASCULARES		RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
RENAME CATEGORIA	RENAME SUB-CATEGORIA		
GLICOSÍDEOS CARDÍACOS	-	DIGOXIN	16
ANTIARRÍTMICOS	-	LIDOCAINE	57
		PROPANOLOL	0
		QUINIDINE	7
		VERAPAMIL	24
ANTIANGINOSOS	-	ACETYLSALICILIC ACID	45
		ISOSORBIDE DINITRATE	6
		HEPARIN SODIUM	6
		NIFEDIPINE	21
		PROPANOLOL	0
		VERAPAMIL	24
ANTI-HIPERTENSIVOS	DIURÉTICOS	SPIRONOLACTONE	4
		HYDROCHLOROTHIAZIDE	4
	BLOQUEADORES BETA ADRENÉRGICOS	METOPROLOL	11
		PROPANOLOL	0
	BLOQUEADORES ALFA ADRENÉRGICOS	DOXAZOSIN	7
	BLOQUEADORES ADRENÉRGICOS CENTRAIS	METHYLDOPA	8
	BLOQUEADORES DE CANAIS DE CÁLCIO	VERAPAMIL	24
		NIFEDIPINE	21
	VASODILATADORES DIRETOS	HYDRALAZINE	4
		SODIUM NITROPRUSSSIATE	2
	SISTEMA RENINA-ANGIOTENSINA	CAPTOPRIL	13

CARDIOVASCULARES		RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
RENAME CATEGORIA	RENAME SUB-CATEGORIA		
DIURÉTICOS GERAIS	-	ACETAZOLAMIDE	3
		SPIROLACTONE	4
		FUROSEMIDE	5
		HYDROCHLOROTHIAZIDE	4
		D-MANNITOL	14
CHOQUE CARDIOVASCULAR	-	DOBUTAMINE	4
		DOPAMINE	252
		EPINEPHRIN	36
		POLYGELINE	0

Tabela 4. Número de patentes relacionadas as drogas da RENAME (2001-2002- Diabetes:

DIABETES	RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
RENAME CATEGORIA		
INSULINAS	HUMAN INSULIN	34
	NEUTRAL INSULIN	1664
OUTROS AGENTES ANTIDIABÉTICOS	ACARBOSE	9
	GLIBENCLAMIDE	9
	GLICLAZIDE	1
	METFORMIN	25

Tabela 5. . Número de patentes relacionadas as drogas da RENAME (2001-2002) - Antineoplásicos

ANTINEOPLÁSICOS	RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
RENAME CATEGORIA		
ALQUILANTES	CYCLOPHOSPHAMIDE	27
	PROCARBAZINE	1
	CHLORMETHINE	3
	DACARBAZINE	3
ANTIMETABÓLITOS	CYTARABINE	11
	FLUOROURACIL	48
	MERCAPTOPURINE	10
	METHOTREXATE	36
PRODUTOS NATURAIS	ETOPOSIDE	24
	VINBLASTINE	25
	VINCRISTINE	23

ANTINEOPLÁSICOS RENAME CATEGORIA	RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
ANTIBIÓTICOS	BLEOMYCIN	40
	DACTINOMYCIN	6
	DOXORUBICIN	8
OUTROS	CISPLATIN	81
	ASPARAGINASE	9
ADJUVANTES DA TERAPIA ANTINEOPLÁSICA	DEXAMETHASONE	59
	LEUPRORELIN	18
	MEDROXYPROGESTERONE	5
	METHYLPREDNISOLONE	6
	PREDNISONE	20
	TAMOXIFEN	46

Tabela 6. Número de patentes relacionadas as drogas da RENAME (2001-2002) – Doenças Infecto-Contagiosas

DOENÇAS INFECTO-CONTAGIOSAS		RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT - 2001/2002
RENAME CATEGORIA	RENAME SUB-CATEGORIA		
ANTIBACTERIANOS	PENICILINAS	AMOXICILLIN	16
		AMPICILLIN	24
		BENZYLPENICILLIN	18
		BENZYLPENICILLIN BENZATINE	0
		BENZYLPENICILLIN PROCAINE	1
		PHENOXYMETHYLPENICILLIN	0
		OXACILLIN	4
	CEFALOSPORINAS	CEFAZOLIN	1
		CEFTAZIDIME	6
		CEFTRIAXONE	2
		CEPHALEXIN	9
	AMINOGLICOSÍDEOS	AMIKACIN	6
		GENTAMICIN	36
	SULFAS E ANTI-SÉPTICOS URINÁRIOS	NITROFURANTOIN	3
		SULFADIAZINE	8
		SULFASALAZINE	1
		SULFAMETHOXAZOL + TRIMETHOPRIM	2
	OUTROS AGENTES ANTIBACTERIANOS	CIPROFLOXACIN	33
		CLINDAMYCIN	16
		CHLORAMPHENICOL	22
		DOXYCYCLINE	12
		ERYTHROMYCIN	121
		METRONIDAZOLE	59
		VANCOMYCIN	77

DOENÇAS INFECTO-CONTAGIOSAS		RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT - 2001/2002
RENAME CATEGORIA	RENAME SUB-CATEGORIA		
ANTIBACTERIANOS	TRATAMENTO DA HANSENÍASE	CLOFAZIMINE	0
		DAPSONE	24
		MINOCYCLINE	14
		OFLOXACIN	21
		RIFAMPIN	30
		THALIDOMIDE	23
ANTIFÚNGICOS SISTÊMICOS LOCAIS	-	AMPHOTERICIN B	17
		BENZOIC ACID	284
		SALICYLIC ACID	181
		FLUCYTOSINE	7
		FLUCONAZOLE	19
		GRISEOFULVIN	8
		KETOCONAZOLE	25
		MICONAZOLE	14
		NYSTATIN	14
		SODIUM THIOSULFATE	65
ANTIVIRAIS	-	ACICLOVIR	45
		GANCICLOVIR	17
ANTIPARASITÁRIOS	ANTI-HELMÍNTICOS	ALBENDAZOLE	7
		DIETHYLCARBAMAZINE	0
		MEBENDAZOLE	2
		PRAZIQUANTEL	9
		THIABENDAZOLE	5
	ANTI-PROTOZOÁRIOS	ARTEMETHER	1
		ARTESUNATE	1
		BENZONIDAZOLE	0
		CHLOROQUINE	22
		CLINDAMYCIN	13
		DOXYCYCLINE	13
		MEFLOQUINE	4
		MEGLUMINE ANTIMONIATE	0
		METRONIDAZOLE	59
		PENTAMIDINE	9
		PRIMAQUINE	6
		PYRIMETHAMINE	1
		QUININE	30
		SPIRAMYCIN	5
		SULFADIAZINA	8
ANTI-SÉPTICOS E DESINFETANTES	-	GLUTARALDHEYDE	65
		SODIUM HYPOCHLORITE	126
		POVIDONE IODINE	0
		POTASSIUM PERMANGANATE	225
		HYDROGEN PEROXIDE	1488
		METHYLROSANILINE CHLORIDE	12
		CLOREXIDIN	0

Tabela 7. . Número de patentes relacionadas as drogas da RENAME (2001-2002) - Malária

MALÁRIA RENAME CATEGORIA	RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
ANTIPROTOZOÁRIOS PARA TRATAMENTO DA MALÁRIA	ARTEMETHER	1
	ARTESUNATE	1
	BENZONIDAZOLE	0
	CHLOROQUINE	22
	CLINDAMYCIN	13
	DOXYCYCLINE	13
	MEFLOQUINE	4
	PRIMAQUINE	6
	QUININE	30

Tabela 8. Número de patentes relacionadas as drogas da RENAME (2001-2002) - Leishmaniose

LEISHMANIOSE RENAME CATEGORIA	RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
MEDICAMENTOS ANTI-LEISHMANIOSE	PENTAMIDINE	9
	MEGLUMINE ANTIMONIATE	0

Tabela 9. Número de patentes relacionadas as drogas da RENAME (2001-2002) - Tuberculose

TUBERCULOSE RENAME CATEGORIA	RENAME DROGAS	TOTAL DE PATENTES POR DROGA NA DERWENT -2001/2002
ANTIBACTERIANOS PARA TRATAMENTO DA TUBERCULOSE	CIPROFLOXACIN	33
	CLARITHROMYCIN	27
	ETHAMBUTOL	10
	ETHIONAMIDE	1
	ISONIAZID	21
	ISONIAZID + RIFAMPIN	10
	PYRAZINAMIDE	5
	RIFAMPIN	7
	STREPTOMYCIN	33

ANEXO I – RELAÇÃO DOS PAÍSES E RESPECTIVOS CÓDIGOS

Argentina (AR)
Australia (AU)
Austria (AT)
Belgium (BE)
Brazil (BR)
Canada (CA)
China (CN)
Czech Republic (CZ)
Czechoslovakia (CS)
Denmark (DK)
European Patents (EP)
Finland (FI)
France (FR)
Germany (East) (DD)
Germany (DE)
Hungary (HU)
International Technology Disclosures (TP)
Ireland (IE)
Israel (IL)
Italy (IT)
Japan (JP)
Korea (KR) (South)
Luxembourg (LU)
Mexico (MX)
Netherlands (NL)
New Zealand (NZ)
Norway (NO)
Patent Cooperation Treaty (WO)
Philippines (PH)
Portugal (PT)
Research Disclosure (RD)
Romania (RO)
Russian Federation (RU)
Singapore (SG)
Slovakia (SK)
South Africa (ZA)
Soviet Union (SU)
Spain (ES)
Sweden (SE)
Switzerland (CH)
Taiwan (TW)
United Kingdom (GB)
United States (US)