

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 January 2003 (03.01.2003)

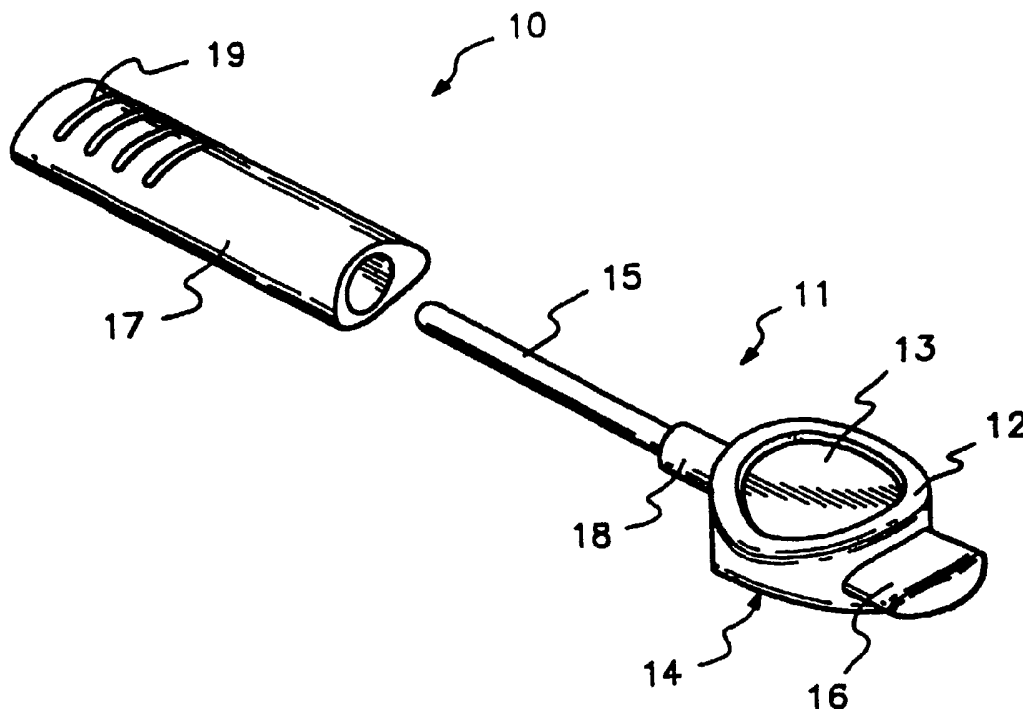
PCT

(10) International Publication Number
WO 2003/000343 A3

- (51) International Patent Classification⁷: A61K 31/00, 31/505, 31/40, A61P 15/00
- (21) International Application Number: PCT/US2002/009415
- (22) International Filing Date: 25 March 2002 (25.03.2002)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 09/888,250 21 June 2001 (21.06.2001) US
- (71) Applicant: VIVUS, INC. [US/US]; 1172 Castro Street, Mountain View, CA 94040 (US).
- (72) Inventors: WILSON, Leland, E.; 164 East Creek Drive, Menlo Park, CA 94025 (US). DOHERTY, Paul, C., Jr.; 10461 Castine Avenue, Cupertino, CA 95014 (US). PLACE, Virgil, A.; P.O. Box 44555, 10 Ala Kahua, Kawaihae, HI 96743 (US). SMITH, William, L.; 18 Capron Lane, Montclair, NJ 07043 (US). ABDEL-HAMID ABDOU ALI, Ibrahim, AbouBakr;
- (74) Agents: REED, Dianne, E. et al.; Reed & Eberle LLP, 800 Menlo Avenue, Suite 210, Menlo Park, CA 94025 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ADMINISTRATION OF PHOSPHODIESTERASE INHIBITORS FOR THE TREATMENT OF PREMATURE EJACULATION



(57) Abstract: A method is provided for treatment of premature ejaculation by administration of a phosphodiesterase inhibitor, e.g., an inhibitor of a Type III, Type IV, or Type V phosphodiesterase. In a preferred embodiment, administration is on as "as needed" basis, i.e., the drug is administered immediately or several hours prior to sexual activity. Pharmaceutical formulations and packaged kits are also provided.

WO 2003/000343 A3



Published:

— *with international search report*

(88) Date of publication of the international search report:

25 March 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/09415

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/00 A61K31/505 A61K31/40 A61P15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01 41807 A (VIVUS INC) 14 June 2001 (2001-06-14) claims 1-45 page 3, line 11 - line 16 page 4, line 4 - line 12 page 7, line 15 - line 23 page 9, line 11 - page 16, line 4 page 24, paragraph 1	1-47, 49-57
Y	---	48
X	US 6 156 753 A (DOHERTY JR PAUL C ET AL) 5 December 2000 (2000-12-05) abstract claims 1-67 column 3, line 44 - line 60 column 6, line 10 - line 25 examples 1-5 figure 1	1-36, 51-57

	-/--	

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

7 July 2003

Date of mailing of the international search report

17. 07. 2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Langer, O

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/09415

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 6 127 363 A (DOHERTY JR PAUL C ET AL) 3 October 2000 (2000-10-03)</p> <p>abstract claims 1-106 column 6, line 15 - line 19 column 7, line 13 -column 9, line 53 examples 1-6 figure 1</p> <p style="text-align: center;">---</p>	1-32, 37-39, 51-57
X	<p>US 6 037 346 A (DOHERTY JR PAUL C ET AL) 14 March 2000 (2000-03-14)</p> <p>abstract column 5, line 41 - line 54 column 6, line 62 -column 8, line 32 figure 1 column 14, line 26 - line 40</p> <p style="text-align: center;">---</p>	1-47, 51-57
X	<p>GB 2 340 037 A (GLAXO GROUP LTD) 16 February 2000 (2000-02-16)</p> <p>page 1, line 19 - line 25 page 4, line 1 - line 3</p> <p style="text-align: center;">---</p>	1-32,40
Y		46-48
Y	<p>WO 95 19978 A (DAUGAN ALAIN CLAUDE MARIE ;GLAXO LAB SA (FR)) 27 July 1995 (1995-07-27)</p> <p>abstract page 6, line 15 - line 17 page 6, line 23 - line 24</p> <p style="text-align: center;">---</p>	40,46,47
Y	<p>EP 1 097 711 A (PFIZER LTD ;PFIZER (US)) 9 May 2001 (2001-05-09)</p> <p>paragraph [0008]</p> <p style="text-align: center;">---</p>	40,46,47
Y	<p>NORMAN P: "IC-351 ICOS CORP" CURRENT OPINION IN CPNS INVESTIGATIONAL DRUGS, PHARMA PRESS, LONDON,, GB, vol. 1, no. 2, 1999, pages 268-271, XP001021217 ISSN: 1464-844X page 268, left-hand column, paragraph 1</p> <p style="text-align: center;">---</p>	40,46,47
Y	<p>SORBERA L A: "IC-351 TREATMENT OF ERECTILE DYSFUNCTION TREATMENT OF FEMALE SEXUAL SYSFUNCTION PHOSPHODIESTERASE 5 INHIBITOR GF-196960 CIALIS(TM)" DRUGS OF THE FUTURE, BARCELONA, ES, vol. 26, no. 1, 2001, pages 15-19, XP001021114 ISSN: 0377-8282 page 16, left-hand column, paragraph 3</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	40,46,47

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/09415

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 01 19802 A (TANABE SEIYAKU CO ;KIKKAWA KOHEI (JP); MATSUKI KENJI (JP); OMORI K) 22 March 2001 (2001-03-22) cited in the application & EP 1 219 609 A 3 July 2002 (2002-07-03) abstract paragraph [0007] - paragraph [0009] paragraph [0030] - paragraph [0033] claims 14-21,24	40,46,48
Y	--- SORBERA L A ET AL: "VARDENAFIL TREATMENT OF ERECTILE DYSFUNCTION PHOSPHODIESTERASE 5 INHIBITOR" DRUGS OF THE FUTURE, BARCELONA, ES, vol. 26, no. 2, 2001, pages 141-144, XP001096442 ISSN: 0377-8282 page 141, right-hand column, last paragraph	40,46
Y	--- WO 99 24433 A (NIEWOEHRER ULRICH ;HANING HELMUT (DE); SERNO PETER (DE); BAYER AG) 20 May 1999 (1999-05-20) page 1 -page 2, line 10 page 49; table A page 61 claims 2,6,10	40,46
P,X	--- US 2002/004498 A1 (DOHERTY PAUL C ET AL) 10 January 2002 (2002-01-10) paragraph [0027] paragraph [0050] - paragraph [0053] claims 1-58	1-47, 49-57
P,X	--- WO 02 18333 A (GYMER GEOFFREY EDWARD ;MIDDLETON DONALD STUART (GB); STOBIE ALAN) () 7 March 2002 (2002-03-07) page 24, line 6 - line 15	40,46,47
P,X	--- WO 01 70211 A (UNIV CALIFORNIA) 27 September 2001 (2001-09-27) claims 1-5 abstract page 5, line 14 - line 22 page 10, line 9 -page 12, line 23 page 17, line 20 -page 22, line 17	1-32,40, 41,46, 51-57
	--- -/--	

INTERNATIONAL SEARCH REPORT

 Internat
al Application No
PCT/US 02/09415

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 02 03995 A (GRAAF PIETER HADEWIJN V D ;PFIZER LTD (GB); NAYLOR ALASDAIR MARK ()) 17 January 2002 (2002-01-17) claims 8-15,17,18 abstract page 1, line 1 - line 12 page 3, line 15 - line 20 page 7, line 4 - line 7 page 8, line 14-24 ---	1-32,37, 40,51-57
E	WO 02 40027 A (PFIZER LTD ;BOOLELL MITRADEV (GB); PFIZER (US)) 23 May 2002 (2002-05-23) claims 1,7 abstract page 1, paragraph 1 page 3, line 21 - line 23 page 5, line 11 -page 9, line 6 page 10, line 26 -page 11, line 2 page 14, line 8 - line 22 page 14, line 30 -page 15, line 3 -----	1-32,40

INTERNATIONAL SEARCH REPORT

International application No.
- PCT/US 02/09415

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 1-22 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. Claims Nos.: -
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

see FURTHER INFORMATION sheet PCT/ISA/210
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-57, as far as relating to inventions 1, 7, 11, and/or 13
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 36, 40-45, 49, 50, and partially 1-35, 37-39, 46, 51-57

Use of milrinone, amrinone and the specifically individually claimed phosphodiesterase inhibitors except for those in the following inventions for the treatment of premature ejaculation, and formulations and kits comprising these inhibitors.

2. Claims: 1-35, 51-57 (all partially)

Use of olprinone for the treatment of premature ejaculation, and formulations and kits comprising this compound.

3. Claims: 1-32, 37-39, 51-57 (all partially)

Use of cipamfylline for the treatment of premature ejaculation, and formulations and kits comprising this compound.

4. Claims: 1-32, 37-39, 51-57 (all partially)

Use of cilomilast for the treatment of premature ejaculation, and formulations and kits comprising this compound.

5. Claims: 1-32, 37-39, 51-57 (all partially)

Use of
8-(3-nitrophenyl)-6-pyridin-4-ylmethyl-6H-pyrido[2,3d]pyridazin-5-one for the treatment of premature ejaculation, and formulations and kits comprising this compound.

6. Claims: 1-32, 37-39, 51-57 (all partially)

Use of
5-(3-bicyclo[2.2.1]hept-2-yloxy)-4-methoxyphenyl-1-methyl-imidazolidin-2-one for the treatment of premature ejaculation, and formulations and kits comprising this compound.

7. Claims: 48, and partially 1-32, 46, 51-57.

Use of a compound selected from the group consisting of
(S)-2-(2-hydroxymethyl-1-pyrrolidinyl)-4-(3-chloro-4-methoxybenzylamino)-5-[N-(2-pyrimidinylmethyl)carbamoyl]pyrimidine,

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

2-(5,6,7,8-tetrahydro-1,7-naphthyridin-7-yl)-4-(3-chloro-4-methoxybenzylamino)-5-[N-(2-morpholinoethyl)carbamoyl]pyrimidine, and
(S)-2-(2-hydroxymethyl-1-pyrrolidinyl)-4-(3-chloro-4-methoxybenzylamino)-5-[N-(1,3,5-trimethyl-4-pyrazolyl)carbamoyl]pyrimidine for the treatment of premature ejaculation, and formulations and kits comprising these compounds.

8. Claims: 1-32, 46, 51-57 (all partially)

Use of vincocetine for the treatment of premature ejaculation, and formulations and kits comprising this compound.

9. Claims: 1-32, 46, 51-57 (all partially)

Use of FR229934 for the treatment of premature ejaculation, and formulations and kits comprising this compound.

10. Claims: 1-32, 46, 51-57 (all partially)

Use of 1-methyl-3-isobutyl-8-(methylamino)xanthine for the treatment of premature ejaculation, and formulations and kits comprising this compound.

11. Claims: 47, and partially 1-32, 46, 51-57

Use of tadalafil for the treatment of premature ejaculation, and formulations and kits comprising this compound.

12. Claims: 1-32, 46, 51-57 (all partially)

Use of a compound selected from the group consisting of methyl-2-(4-aminophenyl)-1,2-dihydro-1-oxo-7-(2-pyridinylmethoxy)-4-(3,4,5-trimethoxyphenyl)-3-isoquinoline carboxylate dihydrochloride and the sulfate salt thereof (T-1032) for the treatment of premature ejaculation, and formulations and kits comprising these compounds.

13. Claims: 1-32, 46, 51-57 (all partially)

Use of vardenafil for the treatment of premature ejaculation, and formulations and kits comprising this compound.

14. Claims: 1-32, 46, 51-57 (all partially)

Use of sodium

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1-[6-chloro-4-(3,4-methylenedioxybenzyl)-aminoquinazolin-2-yl]piperidine-4-carboxylate sesquihydrate for the treatment of premature ejaculation, and formulations and kits comprising this compound.

15. Claims: 1-32, 46, 51-57 (all partially)

Use of a compound selected from the group consisting of 1,3-dimethyl-6-(2-propoxy-5-methanesulfonamidophenyl)-1,5-dihydropyrazolo[3,4d]pyrimidin-4-one, and 1-ethyl-3-methyl-6-(2-propoxy-5-(4-methylthiazol-2-yl)phenyl)-1,5-dihydropyrazolo[3,4d]pyrimidin-4-one for the treatment of premature ejaculation, and formulations and kits comprising these compounds.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

The expressions 'prodrugs' and 'active metabolites' are considered to be unclear under Article 6 PCT, as it is not clear which compounds can be converted by or in the human body to compounds as presently claimed, and to which compounds the presently claimed compounds are being metabolised by or in the human body.

Consequently, these expressions have been ignored for the search.

Present claims 1 and 22, and the respective dependent claims relate to compounds defined by reference to functional features or properties, namely phosphodiesterase inhibitors (types III, IV, and V), antidepressant drugs, serotonin agonists, serotonin antagonists, adrenergic agonists, adrenergic antagonists, adrenergic neurone blockers, and derivatives and analogs thereof.

The expression "derivatives" is not clear as the nature and extent of derivatisation has not been specified. The expression "analog" is not clear either as it has not been specified in what aspect the claimed compounds are analogs.

The claims cover all compounds having the above characteristics or properties, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible.

Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to certain parameters, e.g. binding constants or inhibition constants of agonists, antagonists and neurone blockers. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible.

Claims 34, 38, 41, 43 relate to substance classes. The claims cover all compounds having the structural features claimed therein, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the substance classes in claims 34, 38, 41, 43 have been ignored, and the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the individually and specifically claimed PDE inhibitors in claims 35, 36, 39, 42, 45-50, and in the formula of claim 44, and to the antidepressant drugs, serotonin agonists, serotonin antagonists, adrenergic agonists, adrenergic antagonists, adrenergic neurone blockers as specifically and individually disclosed on pages 23-25 of the description, all as far as relating to the first invention.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/09415

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0141807	A	14-06-2001	US 6548490 B1	15-04-2003
			AU 2256601 A	18-06-2001
			CA 2394060 A1	14-06-2001
			EP 1237577 A2	11-09-2002
			JP 2003516363 T	13-05-2003
			WO 0141807 A2	14-06-2001
			US 2002037828 A1	28-03-2002
			US 2002004498 A1	10-01-2002

US 6156753	A	05-12-2000	US 6037346 A	14-03-2000
			AU 734734 B2	21-06-2001
			AU 1125499 A	17-05-1999
			CA 2305394 A1	06-05-1999
			EP 1027054 A1	16-08-2000
			WO 9921558 A2	06-05-1999
			US 6127363 A	03-10-2000
			US 6548490 B1	15-04-2003
			US 2002037828 A1	28-03-2002
			US 2002004498 A1	10-01-2002

US 6127363	A	03-10-2000	US 6037346 A	14-03-2000
			AU 734734 B2	21-06-2001
			AU 1125499 A	17-05-1999
			CA 2305394 A1	06-05-1999
			EP 1027054 A1	16-08-2000
			WO 9921558 A2	06-05-1999
			US 6156753 A	05-12-2000
			US 6548490 B1	15-04-2003
			US 2002037828 A1	28-03-2002
			US 2002004498 A1	10-01-2002

US 6037346	A	14-03-2000	AU 734734 B2	21-06-2001
			AU 1125499 A	17-05-1999
			CA 2305394 A1	06-05-1999
			EP 1027054 A1	16-08-2000
			WO 9921558 A2	06-05-1999
			US 6156753 A	05-12-2000
			US 6127363 A	03-10-2000
			US 6548490 B1	15-04-2003
			US 2002037828 A1	28-03-2002
			US 2002004498 A1	10-01-2002

GB 2340037	A	16-02-2000	NONE	

WO 9519978	A	27-07-1995	AP 556 A	07-11-1996
			AT 169018 T	15-08-1998
			AU 689205 B2	26-03-1998
			AU 1574895 A	08-08-1995
			AU 707055 B2	01-07-1999
			AU 7391298 A	20-08-1998
			BG 62733 B1	30-06-2000
			BG 100727 A	28-02-1997
			BR 9506559 A	28-10-1997
			CA 2181377 A1	27-07-1995
			CN 1143963 A ,B	26-02-1997
			CN 1224720 A ,B	04-08-1999
			CZ 9602116 A3	11-06-1997
			DE 69503753 D1	03-09-1998

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/09415

Patent document cited in search report	Publication date	Patent family member(s)	Publication date		
WO 9519978	A	DE 69503753 T2	21-01-1999		
		DK 740668 T3	03-05-1999		
		EE 3231 B1	15-10-1999		
		WO 9519978 A1	27-07-1995		
		EP 0740668 A1	06-11-1996		
		ES 2122543 T3	16-12-1998		
		FI 962927 A	19-07-1996		
		HK 1013286 A1	19-05-2000		
		HR 950023 A1	30-04-1998		
		HU 74943 A2	28-03-1997		
		IL 112384 A	16-08-1998		
		JP 9508113 T	19-08-1997		
		LU 91017 A9	26-05-2003		
		LV 11690 A	20-02-1997		
		LV 11690 B	20-06-1997		
		NO 963015 A	09-09-1996		
		NZ 279199 A	26-01-1998		
		PL 315559 A1	12-11-1996		
		RO 117794 B1	30-07-2002		
		RU 2142463 C1	10-12-1999		
		SG 49184 A1	18-05-1998		
		SI 740668 T1	28-02-1999		
		SK 94096 A3	09-04-1997		
		TW 378210 B	01-01-2000		
		US 2002119976 A1	29-08-2002		
		US 6025494 A	15-02-2000		
		US 6143746 A	07-11-2000		
		US 6127542 A	03-10-2000		
		US 6369059 B1	09-04-2002		
		US 5859006 A	12-01-1999		
		ZA 9500424 A	27-09-1995		

		EP 1097711	A	09-05-2001	AU 6956600 A
CA 2324324 A1	02-05-2001				
EP 1097711 A2	09-05-2001				
HU 0004211 A2	28-11-2001				
JP 2001172182 A	26-06-2001				
ZA 200006165 A	30-04-2002				

WO 0119802	A	22-03-2001	AU 7311800 A	17-04-2001	
			BG 106566 A	28-02-2003	
			BR 0014526 A	18-06-2002	
			CA 2383466 A1	22-03-2001	
			CN 1374953 T	16-10-2002	
			EP 1219609 A1	03-07-2002	
			HU 0202795 A2	28-02-2003	
			WO 0119802 A1	22-03-2001	
			JP 2002012587 A	15-01-2002	
			NO 20021308 A	24-04-2002	
			TR 200200701 T2	21-06-2002	
			US 2003032647 A1	13-02-2003	
			AU 4114201 A	12-11-2001	
			CA 2407231 A1	23-10-2002	
			EP 1277741 A1	22-01-2003	
			WO 0183460 A1	08-11-2001	

WO 9924433	A	20-05-1999	DE 19750085 A1	20-05-1999	
			DE 19812462 A1	30-09-1999	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/09415

Patent document cited in search report	Publication date	Patent family member(s)	Publication date			
WO 9924433	A	DE 19840289 A1	09-03-2000			
		AT 213246 T	15-02-2002			
		AU 738675 B2	20-09-2001			
		AU 1558799 A	31-05-1999			
		BG 104406 A	31-08-2001			
		BR 9812785 A	10-10-2000			
		CA 2309332 A1	20-05-1999			
		CA 2395558 A1	20-05-1999			
		CN 1278822 T	03-01-2001			
		DE 19881732 C1	31-01-2002			
		DE 19881732 D2	24-08-2000			
		DE 59803108 D1	21-03-2002			
		DK 1049695 T3	13-05-2002			
		DK 200000766 A	09-05-2000			
		EE 200000291 A	15-06-2001			
		WO 9924433 A1	20-05-1999			
		EP 1174431 A2	23-01-2002			
		EP 1049695 A1	08-11-2000			
		ES 2172945 T3	01-10-2002			
		FI 20001086 A	09-05-2000			
		GB 2346877 A ,B	23-08-2000			
		HR 20000292 A1	30-04-2001			
		HU 0100394 A2	28-09-2001			
		JP 3356428 B2	16-12-2002			
		JP 2001522851 T	20-11-2001			
		JP 2002348290 A	04-12-2002			
		LU 90561 A1	01-12-2000			
		NO 20002444 A	11-05-2000			
		NO 20021714 A	11-05-2000			
		NZ 504436 A	31-08-2001			
		PL 340400 A1	29-01-2001			
		PT 1049695 T	31-07-2002			
		SE 0001745 A	11-05-2000			
		SI 1049695 T1	30-06-2002			
		SK 7092000 A3	12-03-2001			
		TR 200001338 T2	21-08-2000			
		US 6362178 B1	26-03-2002			
		US 6566360 B1	20-05-2003			
		ZA 9810297 A	20-05-1999			

		US 2002004498	A1	10-01-2002	US 6548490 B1	15-04-2003
					US 6037346 A	14-03-2000
					AU 2256601 A	18-06-2001
					CA 2394060 A1	14-06-2001
EP 1237577 A2	11-09-2002					
JP 2003516363 T	13-05-2003					
WO 0141807 A2	14-06-2001					
US 2002037828 A1	28-03-2002					
AU 734734 B2	21-06-2001					
AU 1125499 A	17-05-1999					
CA 2305394 A1	06-05-1999					
EP 1027054 A1	16-08-2000					
WO 9921558 A2	06-05-1999					
US 6156753 A	05-12-2000					
US 6127363 A	03-10-2000					

WO 0218333	A				07-03-2002	AU 7865001 A
		BR 0113610 A	24-06-2003			

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/09415

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0218333	A		EP 1313701 A1	28-05-2003
			HR 20030141 A1	30-04-2003
			WO 0218333 A1	07-03-2002
			NO 20030842 A	28-04-2003
			US 2003060456 A1	27-03-2003

WO 0170211	A	27-09-2001	US 6476037 B1	05-11-2002
			AU 4928401 A	03-10-2001
			WO 0170211 A2	27-09-2001

WO 0203995	A	17-01-2002	AU 6777001 A	14-01-2002
			AU 6935301 A	21-01-2002
			BG 107229 A	30-05-2003
			BR 0112370 A	17-06-2003
			EP 1296938 A1	02-04-2003
			EP 1296687 A2	02-04-2003
			WO 0203995 A2	17-01-2002
			WO 0202513 A1	10-01-2002
			NO 20026262 A	27-12-2002
			US 2002052370 A1	02-05-2002
			US 2002028799 A1	07-03-2002
			AU 2097702 A	24-06-2002
WO 0247670 A1	20-06-2002			

WO 0240027	A	23-05-2002	AU 1514902 A	27-05-2002
			WO 0240027 A1	23-05-2002
			US 2002091129 A1	11-07-2002
