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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.

(54) Title: ORAL EXTENDED RELEASE TABLETS AND METHODS OF MAKING AND USING THE SAME

(57) Abstract: The present invention is directed to oral dosage forms for extended release, including a dosage form for pH independent extended release, of at least one drug to a subject. The present invention is also directed to methods of making and using the dosage forms to treat or prevent a subject for various conditions. Specific extended release formulations of crystalline clindamycin free base are also provided. The crystalline clindamycin free base oral formulations of the present invention provide a means for treating or preventing gram-positive bacterial infections with a minimal number of treatments per day, potentially, as little as once or twice per day.

ional Application No PCT/US 03/33903

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61K9/28 A61K9/00

A61K31/00

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, WPI Data, PAJ

С. ДОСИМ	ENTS CONSIDERED TO BE RELEVANT			
Category °	Citation of document, with indication, where appropriate, of	Relevant to claim No.		
X Y	EP 0 572 942 A (POLI IND CHIM 8 December 1993 (1993-12-08) page 2, line 1-37; claims 1,9 example 4 page 3, paragraph 1 page 3, line 30-35		1,6-9 5,10,14	
X	US 6 096 341 A (SETH PAWAN) 1 August 2000 (2000-08-01) claims 26,28; examples 1-11		1,6-9	
X Y	US 5 945 124 A (DIETRICH RANG 31 August 1999 (1999-08-31) column 2, line 36,55; claims column 5, line 31-51; example	1,6,7,13,14	1,6-9 5,10,14	
° Special ca *A* docume consid *E* earlier of filing of		"T" later document published after the i or priority date and not in conflict we cited to understand the principle or invention "X" document of particular relevance; the cannot be considered novel or can	nternational filing date ith the application but theory underlying the e claimed invention not be considered to	
which citation "O" docume other to the current of t	ent which may throw doubts on priority claim(s) or is cited to establish the publication date of another in or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filing date but han the priority date claimed	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 mailing of the international search report

Kardas-Llorens, E

28/05/2004

Authorized officer

18 May 2004 Name and mailing address of the ISA

Date of the actual completion of the international search

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

Intentional Application No
PCT/US 03/33903

		FC1/US US/339U3						
	C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT							
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.						
X	US 5 427 798 A (BASS JR WILLIAM L ET AL) 27 June 1995 (1995–06–27) column 5; examples 1–3	1,6-9						
X	WO 98/03161 A (SMITH NORMAN IAN ;DEXCEL LTD (IL); DOMB ABRAHAM JACOB (IL)) 29 January 1998 (1998-01-29) page 3 -page 8; claims 1,6-8; examples 1-5	1,6-9						
Υ	US 6 132 768 A (DIETRICH RANGO ET AL) 17 October 2000 (2000-10-17) column 4 -column 5; claims 9,10	5,10,14						
A	BIRKENMEYER R D ET AL: "Lincomycin. XI. Synthesis ans strucutre of clindamycin a potent antibacterial agent" JOURNAL OF MEDICINAL CHEMISTRY, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 13, no. 4, 1970, pages 616-619, XP002218285 ISSN: 0022-2623 page 616 -page 618	4-11,14,						

International application No. PCT/US 03/33903

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. X Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely: see FURTHER INFORMATION sheet PCT/ISA/210
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:
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:
As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
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.:
A. 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

Continuation of Box I.1

Although claims 10, 11 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.

Continuation of Box I.1

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

Information on patent family members

Intermional Application No
PCT/US 03/33903

					5 03/33903
Patent doo cited in sear		Publication date		Patent family member(s)	Publication date
EP 0572	942 A	08-12-1993	IT	1260505 B	09-04-1996
			ΑT	151285 T	15-04-1997
			DE	69309540 D1	15-05-1997
			DE	69309540 T2	04-09-1997
			DK	572942 T3	20-10-1997
			EP	0572942 A2	08-12-1993
			ES	2101164 T3	01-07-1997
			GR	3023605 T3	29-08-1997
			GR	3025005 T3	31-05-2001
			HU	75158 A2	28-04-1997
		01 00 0000			
US 6096		01-08-2000 	US 	6143327 A 	07-11 - 2000
US 5945	124 A	31-08-1999	AT	232090 T	15-02-2003
			AU	6517496 A	05-02-1997
			CA	2232450 A1	23-01-1997
			DE	69626116 D1	13-03-2003
			DE	69626116 T2	23-10-2003
			DK	841903 T3	19-05-2003
			WO	9702020 A1	23-01-1997
			EP	1213015 A1	12-06-2002
			EP	0841903 A1	20-05-1998
			ES	2192226 T3	01-10-2003
			HK	1010836 A1	27-06-2003
			JP	11508577 T	27-00-2003
			PT	841903 T	30-06-2003
			SI	841903 T1	31-08-2003
			N2 21		
			US US	6068856 A 6274173 B1	30-05-2000
				OZ/41/3 DI	14-08-2001
US 5427	798 A	27-06-1995	ΑT	161422 T	15-01-1998
			AU	677595 B2	01-05-1997
			ΑU	4725893 A	15-03-1994
			CA	2142320 A1	03-03-1994
			CY	2143 A	21-06-2002
			DE	69316015 D1	05-02-1998
			DE	69316015 T2	16-04-1998
			EP	0656775 A1	14-06-1995
			ES	2111168 T3	01-03-1998
			WO	9404138 A1	03-03-1994
			GR	3025794 T3	31-03-1998
			HK		
				1004323 A1	20-11-1998
			IL 10	106693 A	10-06-1997
			JP	8500110 T	09-01-1996
			LU	90656 A9	15-01-2001
			MX	9304967 A1	31-05-1994
			NZ	254947 A	26-04-1996
			SG	43911 A1	14-11-1997
			ZA 	9305942 A	13-02-1995
	l61 A	29-01-1998	AU	3352297 A	10-02-1998
WO 9803			WO	9803161 A1	29-01-1998
WO 9803					
WO 9803	768 A	17-10-2000	·AT	232091 T	15-02-2003
	768 A	17-10-2000	·AT AU	232091 T 711577 B2	15-02-2003 14-10-1999
	768 A	17-10-2000			
	768 A	17-10-2000	ΑU	711577 B2	14-10-1999

Information on patent family members

Intentional Application No
PCT/US 03/33903

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
US 6132768 A		DE DK	69626117 T2 841904 T3	30-10-2003 26-05-2003
		WO EP	9702021 A1 0841904 A1	23-01-1997 20-05-1998
		ES HK	2192227 T3 1010835 A1	01-10-2003 27-06-2003
		JP PT	11508578 T 841904 T	27-07-1999 30-06-2003
	ر جمع المنا	SI 	841904 T1 	31-08-2003

Form PCT/ISA/210 (patent family annex) (January 2004)