

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 September 2011 (09.09.2011)

PCT

(10) International Publication Number
WO 2011/107970 A3

(51) International Patent Classification:

A61K 9/20 (2006.01) *A61P 31/04* (2006.01)
A61K 9/28 (2006.01) *A61P 1/12* (2006.01)
A61K 31/437 (2006.01) *A61K 9/14* (2006.01)
C07D 498/22 (2006.01)

(21) International Application Number:

PCT/IB2011/050933

(22) International Filing Date:

4 March 2011 (04.03.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

MI2010A000370 5 March 2010 (05.03.2010) IT

(71) Applicant (for all designated States except US): **ALFA WASSERMANN S.P.A.** [IT/IT]; 1, Via Enrico Fermi, I-65020 Alanno (Pescara) (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **VISCOMI, Giuseppe Claudio** [IT/IT]; 5, Via Ragazzi Del '99, I-40133 Bologna (IT). **MAFFEI, Paola** [IT/IT]; 5, Via Ragazzi Del '99, I-40133 Bologna (IT). **LAURO, Vittoria** [IT/IT]; 5, Via Ragazzi Del '99, I-40133 Bologna (IT). **BARBANTI, Miriam** [IT/IT]; 5, Via Ragazzi Del '99, I-40133 Bologna (IT). **CONFORTINI, Donatella** [IT/IT]; 5, Via Ragazzi Del '99, I-40133 Bologna (IT). **BRAGA, Dario** [IT/IT]; ALFA Wassermann S.p.A. (Patents Department), 5, Via Ragazzi Del '99, I-40133 Bologna (IT).

(81) Designated States (unless otherwise indicated, for every

kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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

5 January 2012

(54) Title: RIFAXIMIN POWDER, PROCESS FOR PREPARING THE SAME AND CONTROLLED RELEASE COMPOSITIONS CONTAINING SAID RIFAXIMIN USEFUL FOR OBTAINING A LONG-LASTING EFFECT.

(57) Abstract: The present invention describes rifaximin powder and to a process for preparing the same. The invention relates also to a pharmaceutical composition in solid form comprising said rifaximin, pharmaceutically acceptable excipients and optionally other ingredients. The compositions according to the invention are suitable for oral administration and are characterized by producing a controlled release of rifaximin, whereby a long-lasting effect is obtained in a patient.



WO 2011/107970 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2011/050933

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A61K9/20 A61K9/28 A61K31/437 C07D498/22 A61P31/04
 A61P1/12
 ADD. A61K9/14
 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)
 A61K C07D

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, INSPEC, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/035109 A1 (CIPLA LTD [IN]; CURTIS PHILIP ANTHONY [GB]; RAO DHARMARAJ RAMACHANDRA) 27 March 2008 (2008-03-27) page 3, lines 3-23 page 5, lines 14-19 page 6, lines 20-24 page 8, line 1 - page 9, line 6 page 10, lines 19-26 page 11, lines 1-10 figure 1 examples 1, 6 claims ----- -/--	1-15

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&" document member of the same patent family</p>
--	--

Date of the actual completion of the international search 9 November 2011	Date of mailing of the international search report 16/11/2011
--	--

Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer van de Wetering, P
--	--

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2011/050933

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>WO 2009/108730 A2 (SALIX PHARMACEUTICALS LTD [US]; GUSHURST KAREN S [US]; YANG DONGLAI [U]) 3 September 2009 (2009-09-03) page 28, lines 1-2 page 34, line 7 - page 35, line 15 page 38, line 21 - page 40, line 22 figures 4,10,23,26 claims 77-108</p> <p style="text-align: center;">-----</p>	1-15
X	<p>WO 2006/094737 A2 (ALFA WASSERMANN SPA [IT]; VISCOMI GIUSEPPE C [IT]; PALAZZINI ERNESTO []) 14 September 2006 (2006-09-14) page 4, lines 9-26 page 6, lines 5-17 page 6, line 24 - page 7, line 1 page 14, lines 1-7 examples figure 2; table 6 claims</p> <p style="text-align: center;">-----</p>	1-15
X	<p>Salix Pharmaceutical Inc.: "Xifaxan" In: "Physicians' Desk Reference", 2007, Thomson Healthcare, Montvale, XP002601190, ISBN: 1-56363-660-3 vol. 62, pages 2790-2791, page 2790, left-hand column, paragraph 1-2 page 2790, middle column - right-hand column, paragraph 1</p> <p style="text-align: center;">-----</p>	6-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2011/050933

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
WO 2008035109	A1	27-03-2008	AU 2007298733 A1	27-03-2008
			CA 2663776 A1	27-03-2008
			EP 2069363 A1	17-06-2009
			JP 2010504314 A	12-02-2010
			KR 20090080048 A	23-07-2009
			US 2009312357 A1	17-12-2009
			WO 2008035109 A1	27-03-2008

WO 2009108730	A2	03-09-2009	AU 2009219342 A1	03-09-2009
			CA 2716830 A1	03-09-2009
			CN 102015725 A	13-04-2011
			CR 11657 A	22-11-2010
			EA 201001372 A1	29-04-2011
			EP 2257557 A2	08-12-2010
			JP 2011513243 A	28-04-2011
			KR 20100127797 A	06-12-2010
			US 2010239664 A1	23-09-2010
			US 2011105550 A1	05-05-2011
			WO 2009108730 A2	03-09-2009

WO 2006094737	A2	14-09-2006	AU 2006222206 A1	14-09-2006
			BR PI0608853 A2	02-02-2010
			CA 2595033 A1	14-09-2006
			CN 101137350 A	05-03-2008
			EP 1874273 A2	09-01-2008
			HR 20070432 A2	30-11-2007
			JP 2008531743 A	14-08-2008
			KR 20070117616 A	12-12-2007
			MA 29346 B1	03-03-2008
			MD 20070267 A	30-06-2008
			NZ 556740 A	30-07-2010
			RS P20070365 A	22-01-2009
			US 2009011020 A1	08-01-2009
			US 2010330129 A1	30-12-2010
			WO 2006094737 A2	14-09-2006
			ZA 200707396 A	26-08-2009
