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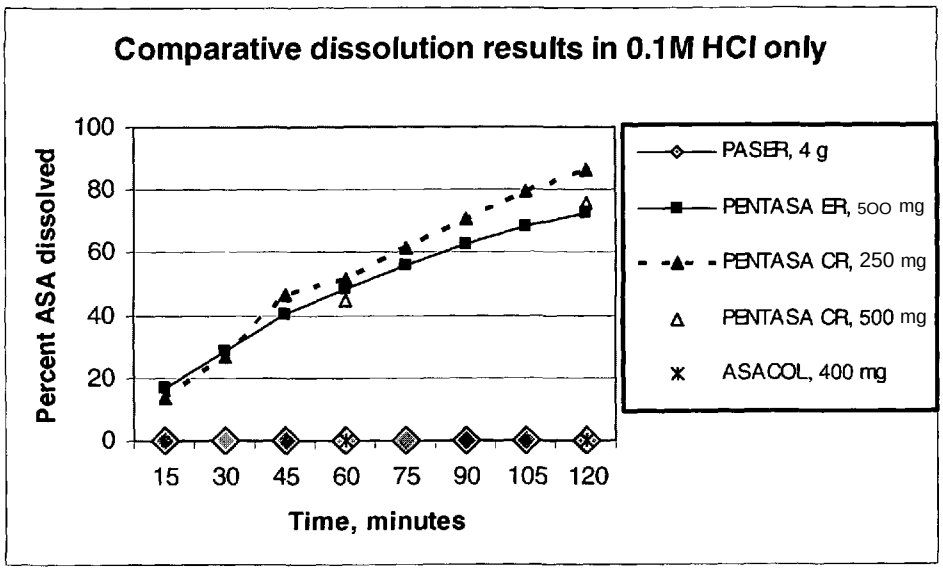
[Continued on next page]

(54) Title: TREATMENT OF INFLAMMATORY BOWEL DISEASE WITH ENTERIC COATED FORMULATIONS COMPRISING 5-AMINOSALICYLIC ACID OR 4-AMINOSALICYLIC ACID



(57) Abstract: Methods are disclosed for treating patients suffering from inflammatory bowel disease, including ulcerative colitis or Crohn's disease, by administering an oral or enema dosage form containing at least one aminosalicylate active ingredient. Granular dosage forms and kits are also disclosed.

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PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION Of SUBJECT MATTER
INV. A61K31/60 A61K9/14 A61P29/00

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

B. RELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A61K

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

Electronic data base consulted duπng the international search (name of data base and, where practical, search terms used)
EPO-Internal , WPI Data, BIOSIS, **EMBASE**

C. DOCUMENTS CONSIDERED TO **BE RELEVANT**

Category •	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	FR 2 692 484 A (GOUCHET FRANCK [FR]) 24 December 1993 (1993-12-24) claims 1-7 page 1, paragraphs 2,5 page 7 - page 8	1-6, 10-12, 24, 28-30, 33,34
Y	-----	1-53
X	US 2005/090473 Al (DEVANE JOHN [IE] ET AL) 28 April 2005 (2005-04-28) claims 5,7 example 2 paragraphs [0002], [0034], [0038]	1-6, 10-18, 24, 28-34,38
Y	-----	1-53
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[X] Further documents are listed in the continuation of Box C

[X] See patent family annex

• Special categories of cited documents

"A1 document defining the general stale 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 pπoπty claιm(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O ' document referring Io an oral disclosure, use, exhibition or other means

'P' document published prior Io the international filing date but later than the pπoπty dale claimed

'T• later document published after the international filing dale or pπoπty dale 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 ol particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu¬ments, such combination being obvious Io a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing ol the international search report
9 June 2008	16/07/2008

Name and mailing address of the ISA/	Authorized officer
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	**Peri s Antol i , Berta**

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International application No
PCT/US2007/026350

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category'	Cilalion of document with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 2001/055616 Al (OTTERBECK NORBERT [DE]) 27 December 2001 (2001-12-27)	1-6 ,8, 10-18, 24 , 25, 27-34, 38-43, 47-52
	cl aims 1 ,2,5 , 7 , 10 examples 1 , 2 paragraphs [0021] , [0022] , [0028] , [0029] , [0036]	
Y		1-53

X	US 2006/210631 Al (PATEL ASHISH A [US] ET AL) 21 September 2006 (2006-09-21)	1-3,6, 10-18, 24,25, 28-30, 33-38
	cl aims 1 ,6-8, 18 example 1 paragraphs [0001] , [0022] , [0023]	
Y		1-53

X	US 2004/052846 Al (PRATER DEREK ALLAN [GB] ET AL) 18 March 2004 (2004-03-18)	1-3,6, 10-18, 24 ,25, 28-34, 38-43, 49-52
	examples 5,7 figure 11 paragraph [0056]	
Y		1-53

X	US 5 401 512 A (RHODES JOHN [GB] ET AL) 28 March 1995 (1995-03-28)	1-3,6, 10-18, 24,25, 27 ,28, 33 , 34, 39-43,52
	cl aims 1 ,2, 17 examples 1 , 2 figure 1 col umn 5 , l i nes 14-17	
Y		1-53

X	US 5 716 648 A (HALSKOV SOREN [DK] ET AL) 10 February 1998 (1998-02-10)	1-3,7, 24 ,25, 28,29
	cl aims 30-33 col umn 9 , l i nes 40-57	
Y		39-51 ,53

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/026350

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	PELOQUIN C A ET AL: "Pharmacokinetic evaluation of para-aminosalicylic acid granules. " January 1994 (1994-01), PHARMACOTHERAPY 1994 JAN-FEB, VOL. 14, NR. 1, PAGE(S) 40 - 46 , XP009101158 ISSN: 0277-0008 cited in the application Abstract page 41, column 1, paragraphs 1,4	39-52
Y		1-38,53

X	PELOQUIN C A ET AL: "Once-daily and twice-daily dosing of p-aminosalicylic acid granules." March 1999 (1999-03), AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE MAR 1999, VOL. 159, NR. 3, PAGE(S) 932 - 934 , XP009101165 ISSN: 1073-449X abstract page 932, column 1, paragraph 1	39-52
Y		1-38,53

Y	DATABASE MEDLINE [Online] US NATIONAL LIBRARY OF MEDICINE (NLM), BETHESDA, MD, US; May 1993 (1993-05), SINGLETON J W ET AL: "Mesalamine capsules for the treatment of active Crohn's disease: results of a 16-week trial. Pentasa Crohn's Disease Study Group." XP002483304 Database accession no. NLM8482443 cited in the application Abstract & GASTROENTEROLOGY MAY 1993, vol. 104, no. 5, May 1993 (1993-05), pages 1293-1301, ISSN: 0016-5085	1-53

Y	SCHREIBER S ET AL: "Oral 4-aminosalicylic acid versus 5-aminosalicylic acid slow release tablets. Double blind, controlled pilot study in the maintenance treatment of Crohn's ileocolitis." August 1994 (1994-08), GUT AUG 1994, VOL. 35, NR. 8, PAGE(S) 1081 - 1085 , XP009101131 ISSN: 0017-5749 cited in the application Abstract	1-53

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/026350

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article I7(2)(a) for the following reasons:

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

Although claims 1-38 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:

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 No. III Observations where unity of invention Is lacking (Continuation of item 3 of first sheet)

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

1. [ ] As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. [ ] As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. [ ] As only some of the required additional search tees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:

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 and, where applicable, the payment of a protest fee.

[ ] The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

[ ] No protest accompanied the payment ot additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/026350

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2692484 A	24-12-1993	AU 5702194 A	03-07-1995
US 2005090473 Al	28-04-2005	US 2006223787 Al	05-10-2006
US 2001055616 Al	27-12-2001	NONE	
US 2006210631 Al	21-09-2006	WO 2006102446 A2	28-09-2006
US 2004052846 Al	18-03-2004	AU 9208601 A	22-04-2002
		BR 0114633 A	10-02-2004
		CA 2433186 Al	18-04-2002
		CN 1489455 A	14-04-2004
		DE 20121853 Ul	31-07-2003
		EP 1324752 A2	09-07-2003
		WO 0230398 A2	18-04-2002
		JP 2004510812 T	08-04-2004
		MX PA03003235 A	15-10-2003
		US 2007071820 Al	29-03-2007
US 5401512 A	28-03-1995	AT 129893 T	15-11-1995
		AU 652032 B2	11-08-1994
		AU 1279592 A	15-09-1992
		CA 2104686 Al	23-08-1992
		CZ 9301626 A3	19-10-1994
		DE 69205971 Dl	14-12-1995
		DE 69205971 T2	11-04-1996
		DK 572486 T3	11-12-1995
		EP 0572486 Al	08-12-1993
		ES 2079183 T3	01-01-1996
		FI 933680 A	20-08-1993
		GB 2253346 A	09-09-1992
		WO 9214452 Al	03-09-1992
		GR 3018455 T3	31-03-1996
		HU 65914 A2	28-07-1994
		IE 920548 Al	26-08-1992
		IL 101036 A	14-05-1996
		IN 179089 Al	23-08-1997
		JP 2958116 B2	06-10-1999
		JP 6505246 T	16-06-1994
		KR 100220322 Bl	15-09-1999
		NO 932979 A	20-08-1993
		NZ 241687 A	27-09-1993
US 5716648 A	10-02-1998	AU 6969194 A	03-01-1995
		CA 2164606 Al	22-12-1994
		WO 9428911 Al	22-12-1994
		EP 0725645 Al	14-08-1996
		JP 9500617 T	21-01-1997