



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : A61K 31/54, 31/38, 31/425 // (A61K 31/54, 31:425, 31:135) (A61K 31/38, 31:135) (A61K 31/425 A61K 31:38)	A3	(11) International Publication Number: WO 93/16701 (43) International Publication Date: 2 September 1993 (02.09.93)
(21) International Application Number: PCT/US93/01487 (22) International Filing Date: 19 February 1993 (19.02.93) (30) Priority data: 07/839,869 21 February 1992 (21.02.92) US (71) Applicant (for all designated States except US): ALCON LABORATORIES, INC. [US/US]; 6201 South Freeway, Fort Worth, TX 76134 (US). (72) Inventors; and (75) Inventors/Applicants (for US only) : DEAN, Thomas, Robert [US/US]; 101 Meadow View Court, Weatherford, TX 76087 (US). DESANTIS, Louis, Jr. [US/US]; 2316 Winton Terrace West, Fort Worth, TX 76109 (US).		(74) Agents: CHENG, Julie et al.; Alcon Laboratories, Inc., 6201 South Freeway, Fort Worth, TX 76134 (US). (81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 6 January 1994 (06.01.94)
(54) Title: TOPICAL ANTIGLAUCOMA COMPOSITIONS COMPRISING CARBONIC ANHYDRASE INHIBITORS AND BETA-BLOCKERS (57) Abstract Ophthalmic pharmaceutical compositions useful in controlling elevated intraocular pressure associated with glaucoma and ocular hypertension are described. The compositions comprise a combination of a beta-blocker and a carbonic anhydrase inhibitor to reduce the production of aqueous humor, preferably formulated as a suspension having a pH between about 6.8 and about 7.8. These compositions may additionally contain a mucomimetic anionic polymer and/or a finely-divided drug carrier substrate to provide sustained release. A method of controlling elevated intraocular pressure with these compositions is also described.		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 93/01487

A. CLASSIFICATION OF SUBJECT MATTER

IPC 5 A61K31/54 A61K31/38 A61K31/425 //(A61K31/54,31:425,
31:135),(A61K31/38,31:135),(A61K31/425,31:38)

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 5 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	INTERNATIONAL OPHTHALMOLOGY vol. 15, no. SUP. , 1991 page 11-12 F.P. GUNNING 'Medical treatment of glaucoma: developments in research on topical carbonic anhydrase inhibitors.'	1-8, 12-15, 18-20, 22,24, 25,29,30
Y	see abstract	9-11,16, 17,21, 23, 26-28, 31,32

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

* Special categories of cited documents :

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cannot be considered to involve an inventive step when the
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ments, 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

26 October 1993

Date of mailing of the international search report

07 DEC 1993

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 93/01487

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FORTSCHR. OPHTHALMOL. vol. 88, no. 6, 1991 pages 846 - 847 M. PFEIFFER 'Additive Wirkung von Timolol und dem lokalen Karboanhydrasehemmer MK-417 (Sezolamid).'	1-8, 12-15, 18-20, 22,24, 25,29,30
Y	see the whole document	9-11,16, 17,21, 23, 26-28, 31,32
X	--- US,A,4 863 922 (J.J. BALDWIN) 5 September 1989	1-8, 12-15, 18-20, 22,24, 25,29,30
Y	see column 1, line 1-35 see column 12, line 58 - column 13, line 11	9-11,16, 17,21, 23, 26-28, 31,32
X	& US,A,4 797 413 cited in the application --- US,A,4 731 368 (J.M. HOFFMAN, JR.) 15 March 1988 cited in the application	1-9, 12-15, 18-22, 24-26, 29,30
Y	see column 1, line 1-25 see column 3, line 46 - line 52; examples 9,16,17	10,11, 16,17, 23,27, 28,31,32
P,X	--- EP,A,0 509 752 (MERCK & CO. INC.) 21 October 1992	1-15, 18-22, 24-30
Y	see the whole document	16,17, 23,31,32
X	--- EP,A,0 452 151 (MERCK & CO. INC.) 16 October 1991	1-8, 10-15, 18-20, 22,24, 25,27-30
Y	see page 2, line 1 - line 17 see page 6, line 40 - line 43; claims 1,11-13; example 11	9,16,17, 21,23, 26,31,32
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 93/01487

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,A,91 15486 (ALCON LABORATORIES, INC.) 17 October 1991 see claims & US,A,5 153 192 cited in the application ---	9-11,21, 26-28
P,Y	EP,A,0 495 421 (ALCON LABORATORIES INC.) 22 July 1992 see page 3, last paragraph; claim 11 ---	10,11, 27,28
P,Y	EP,A,0 507 224 (ALCON LABORATORIES, INC.) 7 October 1992 see page 5, line 8-10; claims 13,18 ---	10,11, 27,28
Y	US,A,3 655 663 (B.K. WASSON) 11 April 1972 cited in the application see column 1, line 50 - line 72 see column 4, line 12 - column 5, line 16; claims; examples 2,7; table I ---	16,17, 23,31,32
Y	J. MED. CHEM. vol. 15, no. 6 , 1972 pages 651 - 655 B.K. WASSON 'beta-Adrenergic blocking agents. 3-(3-Substituted-amino-2-hydroxypr opoxy)-4-substituted-1,2,5-thiadiazoles.' see table I, compounds 2 and 10 ---	16,17, 23,31,32
A	EP,A,0 429 732 (ALCON LABORATORIES, INC.) 5 June 1991 see claims & US,A,4 911 920 cited in the application -----	1-32

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 93/01487

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:
Remark: Although claims 24-32 are directed to a method of treatment of the human or animal body the search has been carried out and based on the alleged effects of the compositions.
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:
Please see form PCT/ISA/206 of 12-08-93 for further information!
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:

For further information please see PCT/ISA/206 sent to you 12-08-93.

1. Claims 1-9,12-15,18-22,24-26,29,30
 2. Claims 10,11,27,28 (all partially)
 3. Claims 10,11,27,28 (all partially)
 4. Claims 16,17,23,31,32
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.:
 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter. Application No

PCT/US 93/01487

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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International Application No

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