



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : C12N 15/12, C07K 14/47, A61K 31/135, C07D 313/14, 223/22, C07C 211/32, C07D 295/03, 311/90, C07C 211/23, C07D 211/27, 213/38</p>	A3	<p>(11) International Publication Number: WO 97/25421</p> <p>(43) International Publication Date: 17 July 1997 (17.07.97)</p>
<p>(21) International Application Number: PCT/EP96/05800</p> <p>(22) International Filing Date: 21 December 1996 (21.12.96)</p> <p>(30) Priority Data: 9600660.6 12 January 1996 (12.01.96) GB</p> <p>(71) Applicant (for all designated States except US): NOVARTIS AG [CH/CH]; Schwarzwaldallee 215, CH-4058 Basle (CH).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only): FÜRST, Peter [CH/CH]; Cristalinweg 2, CH-4310 Rheinfelden (CH). WALDMEIER, Peter [CH/CH]; Kirchbündtenstrasse 26, CH-4107 Ettingen (CH). TATTON, William, George [CA/CA]; 27 Kirk Road, Halifax, Nova Scotia B3P 1A5 (CA).</p> <p>(74) Common Representative: NOVARTIS AG; Patent and Trade-mark Dept., Klybeckstrasse 141, CH-4002 Basle (CH).</p>	<p>(81) Designated States: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 12 September 1997 (12.09.97)</p>	
<p>(54) Title: PROTEIN INDUCED BY DEPRENYL®</p>		
<p>(57) Abstract</p> <p>We have found that Deprenyl® induces a novel polypeptide in neural cells. This polypeptide has the structure given in SEQ ID No. 1 and is referred to herein as DIP 1 (Deprenyl® Induced Protein 1).</p>		

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 96/05800

A. CLASSIFICATION OF SUBJECT MATTER IPC 6 C12N15/12 C07K14/47 A61K31/135 C07D313/14 C07D223/22 C07C211/32 C07D295/03 C07D311/90 C07C211/23 C07C211/27 C07D213/38 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 6 C12N C07K 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	WO 95 00642 A (ARCH DEVELOPMENT CORPORATION; THE REGENT OF THE UNIVERSITY OF MICHIGAN) 5 January 1995 see SEQ ID.NO:7; page 63 first full paragraph; claims 5 and 39 ---				1-4, 13-15
X	DATABASE EMBL Sequence RN10579; Accession number U10579 Rattus norvegicus Bcl-x gene, complete cds, 28 June 1995 S.L. WESSELINGH ET AL.: "Cloning and expression of rat bcl-x in cultured neurons" XP002030099 & UNPUBLISHED, --- -/--				2,13
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.		<input checked="" type="checkbox"/> 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			Date of mailing of the international search report		
24 April 1997			11.07.1997		
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			CUPIDO, M		

INTERNATIONAL SEARCH REPORT

Intern: 1 Application No
PCT/EP 96/05800

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>MOVEMENT DISORDERS, vol. 9, no. supplement 1, 1994, NEW YORK USA, page 4 XP000673174 W.TATTON ET AL.: "(-)-Deprenyl reduces neuronal apoptosis by maintaining Bcl-2 synthesis and mitochondrial membrane potential" see abstract M12</p> <p style="text-align: center;">---</p>	1,3,4
X	<p>JOURNAL OF NEUROCHEMISTRY, vol. 63, no. 4, October 1994, pages 1572-1575, XP000673184 W.G.TATTON ET AL.: "(-)-Deprenyl reduces PC12 cell apoptosis by inducing new protein synthesis" see the whole document</p> <p style="text-align: center;">-----</p>	1,3,4

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 96/05800

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9500642 A	05-01-95	AU 7177394 A	17-01-95
		CA 2165969 A	05-01-95
		EP 0706568 A	17-04-96
		JP 9502603 T	18-03-97

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP 96/05800

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:

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 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 continuation-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.:
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.:

1-3,5,6,13-15 completely and claim 4 partly

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

1. Claims 1-3, 5,6,13-15 completely and claim 4 partly: Deprenyl-induced protein (DIP 1), functional derivatives thereof, methods employing the measurement of DIP 1 activity to screen compounds for a desired pharmaceutical activity, nucleic acid encoding DIP 1 and use of DIP 1 control sequences for regulatable expression of heterologous genes.
2. Claims 7-12 completely and claim 4 partly: Modulators of DIP 1 activity such as for example Deprenyl, DIP 1-inducing compounds of formulas II-XXII and the use of any compound in the manufacture for increasing the activity of DIP 1.