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with international search report

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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: USE OF NEUROTOXINS FOR TREATING DIABETES

(57) Abstract: The invention encompasses a method for treating hyperinsulinemic type 2 diabetes by local administration of a neurotoxin, such as a botulinum toxin, into the pancreas, thereby reducing insulin secretion from a B cell, and a method for treating hypoinsulinemic type 2 diabetes by local administration of a neurotoxin, such as a botulinum toxin, into a sympathetic ganglion, thereby reducing an inhibitory effect upon insulin secretion.

### INTERNATIONAL SEARCH REPORT

In ational Application No PCT/US 01/02273

a. classification of subject matter IPC 7 A61K38/16 A61P5/48

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

#### B. FIELDS SEARCHED

 $\begin{array}{ccc} \text{Minimum documentation searched } & \text{(classification system followed by classification symbols)} \\ \text{IPC 7} & \text{A61K} & \text{C07K} \\ \end{array}$ 

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, BIOSIS

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
А	US 5 766 605 A (SANDERS IRA ET AL) 16 June 1998 (1998-06-16) the whole document	1-32	
A	BOYD ROBERT S ET AL: "The effect of botulinum neurotoxins on the release of insulin from the insulinoma cell lines HIT-15 and RINm5F." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 270, no. 31, 1995, pages 18216-18218, XP001010301 ISSN: 0021-9258 the whole document	1-32	

Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
<ul> <li>Special categories of cited documents:</li> <li>"A" document defining the general state of the art which is not considered to be of particular relevance</li> <li>"E" earlier document but published on or after the international filing date</li> <li>"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)</li> <li>"O" document referring to an oral disclosure, use, exhibition or other means</li> <li>"P" document published prior to the international filing date but later than the priority date claimed</li> </ul>	<ul> <li>'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</li> <li>'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</li> <li>'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.</li> <li>'&amp;' document member of the same patent family</li> </ul>
Date of the actual completion of the international search	Date of mailing of the international search report
3 August 2001	10/08/2001
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	Stein, A

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### INTERNATIONAL SEARCH REPORT

Ir. ational Application No
PCT/US 01/02273

	ation) DOCUMENTS CONSIDERED TO BE RELEVANT		
ategory °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
A	WEHRMANN T ET AL: "ENDOSCOPIC BOTULINUM TOXIN INJECTION INTO THE MINOR PAPILLA FOR TREATMENT OF IDIOPATHIC RECURRENT PANCREATITIS IN PATIENTS WITH PANCREAS DIVISUM" GASTROINTESTINAL ENDOSCOPY, XX, XX, vol. 50, no. 4, 1999, pages 545-548, XP000971257 the whole document	1-32	
P,X	the whole document  US 6 143 306 A (DONOVAN STEPHEN) 7 November 2000 (2000-11-07) the whole document	1-32	

#### FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-14,18,19,28-30 (all partially)

Present claims 1-14,18,19,28-30 relate to a neurotoxin defined by reference to a desirable characteristic or property, namely having a therapeutic effect in the treatment of diabetes (including the effect on insulin and glucagon secretion). However these claims do not contain any structural or essential characteristics of the neurotoxin. The claims cover all neurotoxins having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT for only a very limited number of such neurotoxins. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the neurotoxin by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the neurotoxin botulinum toxin mentioned in the desription on page 15 lines 4-7, page 16 line 28-page 29 line 2, page 20 lines 3-19, page 21 lines 23-28 and claims 15-17, 20-27,31 and 32.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

In ational Application No
PCT/US 01/02273

Patent document cited in search report			Patent family member(s)		Publication date
US 5766605	Α	16-06-1998	EP WO	0705106 A 9528171 A	10-04-1996 26-10-1995
US 6143306	A	07-11-2000	WO US	0151074 A 6261572 B	19-07-2001 17-07-2001