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14 August 2003

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: $\alpha 7$ NICOTINIC RECEPTOR PEPTIDES AS LIGANDS FOR β AMYLOID PEPTIDES

(57) Abstract: The present invention describes native and degenerate peptides derived from human $\alpha 7$ nicotinic receptor useful as minimized ligands for β amyloid peptides. These peptides are useful to discover compounds that inhibit the interaction with β amyloid peptides with the $\alpha 7$ nicotinic receptor, and are also useful in assays to measure β amyloid.



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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/25410

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/705 A61K38/17 G01N33/68 A61P25/28

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 7 C07K

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.
A	WO 99 62505 A (CHEN ROBERT H ;REITZ ALLEN B (US); WANG HOAU YAN (US); DEMETER DAV) 9 December 1999 (1999-12-09) cited in the application * page 3, lines 4-19; page 13, lines 22-27; paragraph joining pages 19 and 20; table on page 14; examples 16 and 17 *	1-8
A	WO 98 28331 A (ABBOTT LAB) 2 July 1998 (1998-07-02) * page 1, line 31 - page 2, line 20; page 16, line 10; figures 2A-2B *	1-5

☐ Further documents are listed in the continuation of box C.

☒ 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

6 September 2002

Date of mailing of the international search report

17.03.03

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Fausti, S

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/25410

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.: 6
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body
Although claim 6 may be directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on "in vitro" drug screening methods.
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:

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.:
1-8(partially)

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

Continuation of Box I.1

Although claim 6 may be directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on "in vitro" drug screening methods.

Continuation of Box I.1

Claims Nos.: 6

Rule 39.1(iv) PCT - Diagnostic method practised on the human or animal body

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims: Invention 1: claims 1-8(partially)

Beta-amyloid binding peptides comprising the amino acid sequence of Seq. ID 1, and uses thereof. Claims 1-8 are to be considered partially within this group in so far as they only concern peptides comprising the amino acid sequence of Seq. ID 1.

2. Claims: Inventions 2-25: claims 1-8(partially)

Beta-amyloid binding peptides comprising any of the amino acid sequences of Seq. IDs 2-17,20-22,24-28, and uses thereof.

Each amino acid sequence of claim 1 is regarded as a separate invention:

- Invention 2: Beta-amyloid binding peptides comprising the amino acid sequence of Seq. ID 2, and uses thereof;
 - Invention 3: Beta-amyloid binding peptides comprising the amino acid sequence of Seq. ID 3, and uses thereof;
 - Invention 4: Beta-amyloid binding peptides comprising the amino acid sequence of Seq. ID 4 or 18, and uses thereof;
 - Invention 5: Beta-amyloid binding peptides comprising the amino acid sequence of Seq. ID 5, and uses thereof;
- etc...

(Note that Seq. IDs 4 and 18, as well as Seq. IDs 7 and 19, define identical amino acid sequences; likewise Seq. IDs 22 and 23 relate to the same sequence)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/25410

• Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9962505 A	09-12-1999	AU 4543399 A	20-12-1999
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		EP 1083889 A	21-03-2001
		JP 2002516853 T	11-06-2002
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