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(54) Title: GLP-1 COMPOUNDS

(57) Abstract: GLP-1 compounds comprising GLP-1 analogs and methods of using the GLP-1 compounds for treating metabolic disorders, enhancing insulin expression, and promoting insulin secretion in a patient are provided.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/067150

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07K14/605 A61K38/26

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)
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)
EPO-Internal, WPI Data, BIOSIS, EMBASE, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | WO 03/011892 A (US GOVERNMENT [US]; GREIG NIGEL H [US]; EGAN JOSEPHINE [US]; DOYLE MAI) 13 February 2003 (2003-02-13) page 17, lines 11-18; sequences 35,39 page 20, last paragraph - page 26, line 12 | 1-3, 29-39 |
| Y | WO 2004/093823 A (LILLY CO ELI [US]; DIMARCHI RICHARD DENNIS [US]; GLAESNER WOLFGANG [US]) 4 November 2004 (2004-11-04) claims 1-20 | 1-3, 29-39 |

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

| | |
|---|---|
| *A* document defining the general state of the art which is not considered to be of particular relevance | *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 |
| *E* earlier document but published on or after the international filing date | *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 |
| *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) | *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. |
| *O* document referring to an oral disclosure, use, exhibition or other means | *&* document member of the same patent family |
| *P* document published prior to the international filing date but later than the priority date claimed | |

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| Date of the actual completion of the international search 7 November 2007 | Date of mailing of the international search report 04/04/2008 |
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| Name and mailing address of the ISA/ 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 | Authorized officer Seroz, Thierry |
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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/067150

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|---|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | <p>LEE S ET AL: "PEGylated glucagon-like peptide-1 displays preserved effects on insulin release in isolated pancreatic islets and improved biological activity in db/db mice" DIABETOLOGIA, vol. 49, no. 7, 6 April 2006 (2006-04-06), pages 1608-1611, XP002457871 ISSN: 0012-186X page 1609, right-hand column, paragraph 2 - page 1610, line R, paragraph 1 -----</p> | 1-3, 29-39 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/067150

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 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:
Although claims 29-31, 37-39 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:

see additional sheet

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 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, 29-39 (all partailly)

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 of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3,29-39 (all partially)

A GLP-1 compound comprising a GLP-1 analog that comprises the amino acid sequence of formula I (SEQ ID No 5) and uses thereof.

2. claims: 4-6,29-39 (all partially)

A GLP-1 compound comprising a GLP-1 analog that comprises the amino acid sequence of formula II (SEQ ID No 9) and uses thereof.

3. claims: 7-9,29-39 (all partially)

A GLP-1 compound comprising a GLP-1 analog that comprises the amino acid sequence of formula III (SEQ ID No 13) and uses thereof.

4. claims: 10-25,29-39 (all partially)

A GLP-1 compound comprising a GLP-1 analog that comprises the amino acid sequence of formula IV (SEQ ID No 29) and uses thereof.

5. claims: 26-39 (all partially)

A GLP-1 compound comprising a GLP-1 analog that comprises the amino acid sequence of formula VI (SEQ ID No 5) and uses thereof.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/067150

| Patent document cited in search report | A | Publication date | Patent family member(s) | Publication date |
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