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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

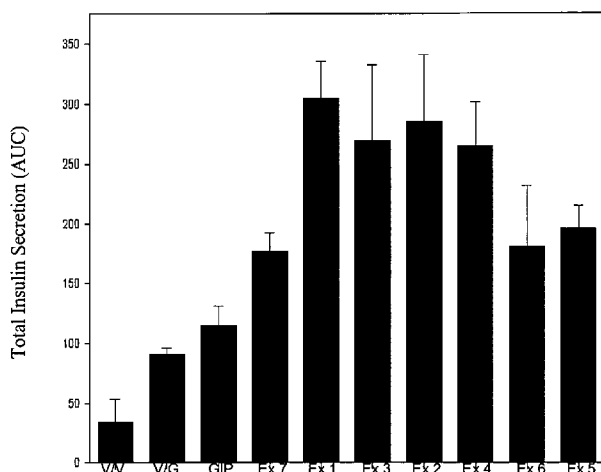
— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: GLUCOSE-DEPENDENT INSULINOTROPIC POLYPEPTIDE ANALOGUES

FIG. 1

GIP Agonists 0.2µg/kg iv



V/V refers to vehicle/vehicle
V/G refers to vehicle/glucose

(57) Abstract: There is provided a novel series of analogues of glucose-dependent insulinotropic polypeptide, pharmaceutical compositions containing said compounds, and the use of said compounds as GIP-receptor agonists or antagonists for treatment of GIP-receptor mediated conditions, such as non-insulin dependent diabetes mellitus and obesity.

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- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
 - *with sequence listing part of description (Rule 5.2(a))*

(88) Date of publication of the international search report:
15 April 2010

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/04550

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61K 38/00 (2010.10) USPC - 530/300; 424/185.1 530/324 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) USPC- 530/300; 424/185.1 530/324 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 practicable, search terms used) PubWEST (USPT, PGPB, EPAB, JPAB), Google Patents/Scholar: gastric inhibitory peptide, insulinotropic, cyclopropanecarboxylic, ornithine, acyl, aspartic acid. GenCore 6.3: SEQ ID NO: 4 and 21																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
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<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/>																						
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"P" document published prior to the international filing date but later than the priority date claimed																						
Date of the actual completion of the international search 14 January 2010 (14.01.2010)	Date of mailing of the international search report 02 FEB 2010																					
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774																					

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/04550

Box No. 1 Nucleotide and/or amino acid sequence(s) (Continuation of item 1.c of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing filed or furnished:

a. (means)

on paper

in electronic form

b. (time)

in the international application as filed

together with the international application in electronic form

subsequently to this Authority for the purposes of search

2. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

GenCore 6.3: SEQ ID NO: 4 and 21

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/04550

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:

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.: 14-35
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:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I+: claims 1-13, drawn to a synthetic analogue of glucose-dependent insulinotropic polypeptide (GIP). The first invention (claims 1-5, 8-13) encompasses a compound (A5c11,41)hGIP(1-42)-OH (SEQ ID NO:4). Should an additional fee(s) be paid, Applicant is invited to elect an additional SEQ ID NO(s) to be searched. The exact claims searched will depend on the specifically elected SEQ ID NO(s).

The inventions listed as Group I+ do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

- Please see extra sheet for continuation -

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 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.:
claims 1-13 restricted to SEQ ID NO: 4 and 21
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 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.

***** Supplemental Box *****

Continuation of: Box NO III. Observations where unity of invention is lacking

The special technical feature of the inventions listed as Group I+ is the specific GIP analogue recited therein. The inventions do not share a special technical feature for the following reasons: 1) a synthetic GIP analogue in known in the art. Specifically, an article titled 'Structurally modified analogues of glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP) as future antidiabetic agents' by Green, et al. (Curr Pharm Des. 2004, 10(29):3651-62) discloses analogues of glucose-dependent insulinotropic polypeptide (GIP) (pg 4, Table 2, (D-Ala²)GIP(1-42), (Abu²)GIP(1-42), and (Sar²)GIP(1-42)); 2) therefore no significant structural similarity that is an improvement over Green, et al. can readily be ascertained among the amino acid sequences. Without a shared special technical feature, the inventions lack unity with one another.

The inventions of Group I+ therefore lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.