

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 December 2004 (02.12.2004)

PCT

(10) International Publication Number
WO 2004/103390 A3

(51) International Patent Classification⁷: **A61K 38/04**,
38/16

(74) Agents: **VINCENT, Matthew, P.** et al.; Ropes & Gray
LLP, One International Place, Boston, MA 02110-2624
(US).

(21) International Application Number:
PCT/US2004/015488

(22) International Filing Date: 17 May 2004 (17.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/471,411 15 May 2003 (15.05.2003) US

(71) Applicant (for all designated States except US):
TRUSTEES OF TUFTS COLLEGE [US/US]; Bal-
lou Hall, Medford, MA 02155 (US).

(72) Inventors; and

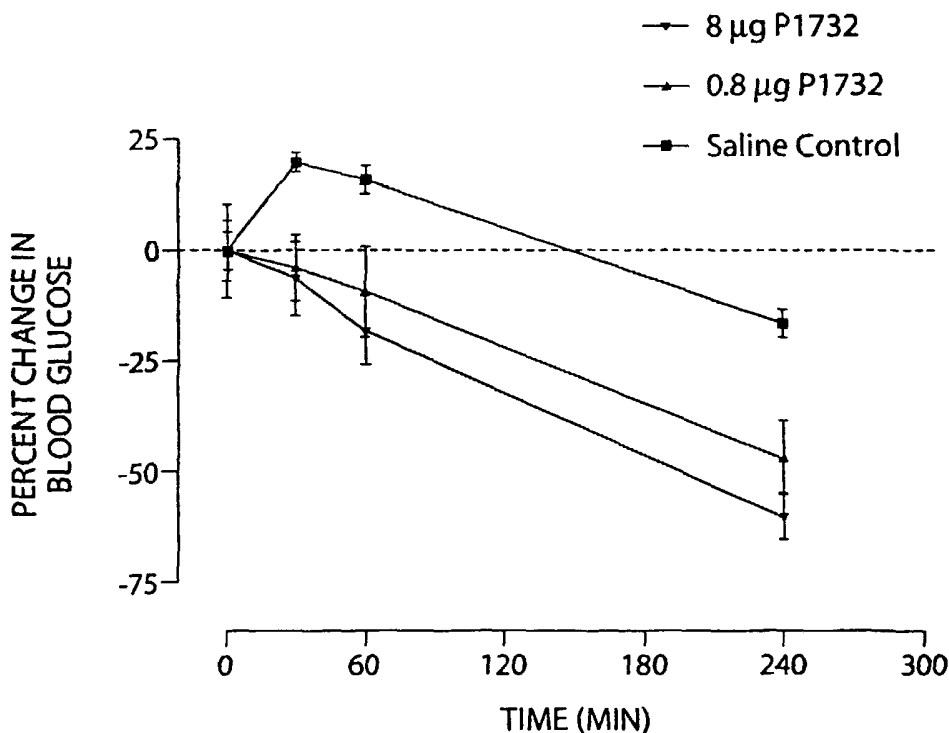
(75) Inventors/Applicants (for US only): **BACHOVCHIN,**
William, W. [US/US]; 7 Warwick Street, Melrose, MA
02176 (US). **LAI, Hung-Sen** [US/US]; 7 Conant Road
U-70, Winchester, MA 01890 (US). **SANFORD, David,**
George [US/US]; 52 Hopkins Street, Reading, MA 01867
(US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: STABLE ANALOGS OF PEPTIDE AND POLYPEPTIDE THERAPEUTICS



(57) Abstract: The present invention relates to compositions of peptide and polypeptideanalogs that are resistant to proteolysis, pharmaceutical uses thereof, and methods of preparation thereof.



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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.

(88) Date of publication of the international search report:

30 June 2005

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/015488

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K38/04 A61K38/16

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 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, EMBASE, BIOSIS, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 276 137 A (OJIMA ET AL) 4 January 1994 (1994-01-04) claims; examples	1-9, 19-25
A	US 6 184 201 B1 (DRUCKER DANIEL J ET AL) 6 February 2001 (2001-02-06) column 6, line 30 - column 7, line 12; claims; table 2 ----- -/--	1-7, 19-25



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

7 February 2005

Date of mailing of the international search report

26. 04. 2005

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

Winger, R

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/015488

Box 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 14-16 and 20-25 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 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 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.:

1-18 (in part), 19-25

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

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

Invention 1: Claims 1-18(in part),19-25

A proteinase-resistant analog of GLP-1 with a tetrasubstituted C(beta) carbon, pharmaceutical compositions and uses.

Inventions 2-119: Claims 1-18(in part)

A proteinase-resistant analog of any of the peptides of claims 8 or 9 with a tetrasubstituted C(beta) carbon, pharmaceutical compositions and uses.

Invention 120,121: Claims 10-18(in part)

A proteinase-resistant analog of a peptide with a tetrasubstituted C(gamma) or C(delta) carbon, pharmaceutical compositions and uses.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/015488

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No. 12
A	MENTLEIN R ET AL: "Dipeptidyl-peptidase IV hydrolyses gastric inhibitory polypeptide, glucagon-like peptide-1(7-36)amide, peptide histidine methionine and is responsible for their degradation in human serum" EUROPEAN JOURNAL OF BIOCHEMISTRY 1993 GERMANY, vol. 214, no. 3, 1993, pages 829-835, XP000600395 ISSN: 0014-2956 page 833; figure 4 -----	
A	DEACON C F ET AL: "Dipeptidyl peptidase IV resistant analogues of glucagon-like peptide-1 which have extended metabolic stability and improved biological activity." DIABETOLOGIA. MAR 1998, vol. 41, no. 3, March 1998 (1998-03), pages 271-278, XP000917648 ISSN: 0012-186X abstract; tables -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/015488

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