



- (51) International Patent Classification:
C07K 14/47 (2006.01)
- (21) International Application Number:
PCT/IB2014/058234
- (22) International Filing Date:
13 January 2014 (13.01.2014)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
1300683.8 15 January 2013 (15.01.2013) GB
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(88) Date of publication of the international search report:
30 October 2014



WO 2014/111841 A3

(54) Title: PEPTIDE

(57) Abstract: There is provided a peptide which is capable of binding to an MHC molecule *in vitro* and being presented to a T cell without antigen processing (i.e. an apitope) which peptide comprises all or a portion of the following proteolipid protein (PLP) peptides: PLP 36-61: HE ALTGTEKLIET YF SKN YQD YEYLI (SEQ ID NO. 1) PLP 179-206: TW TTCQSI AFPSKTSASIGSLCA-DARMY (SEQ ID NO. 2) PLP 207-234: GVL PWN A FPGK VCGSNLLSICKTAEFQM (SEQ ID NO. 3). There is also provided the use of such a peptide in a pharmaceutical composition and a method to treat and/or prevent a disease using such a peptide.

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2014/058234

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07K14/47
ADD.

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

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)

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/055059 A2 (UNIV KANSAS [US]; SIAHAAN TERUNA J [US]; KOBAYASHI NAOKI [US]) 8 May 2008 (2008-05-08) claims 1,2,26,27 sequence 6	1,3-10
X	WO 2012/041867 A2 (UNIV CHINA AGRICULTURAL [CN]; LEONARD THOMAS CHARLES [GB]; WANG BIN [C]) 5 April 2012 (2012-04-05) page 19, lines 15-17 sequence 30	1,3-10

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
- "E" earlier application or patent 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

12 March 2014

Date of mailing of the international search report

11/07/2014

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2014/058234

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.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 5.4(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 all searchable 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, 3-10(all partially)

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, 3-10(all partially)

A peptide capable of binding to an MHC molecule in vitro and being present to a T-cell without antigen processing and which is defined by SEQ ID No: 1.

2-3. claims: 1, 3-10(all partially)

Idem as invention 1 but wherein the peptide is defined by SEQ ID Nos: 2 and 3, respectively.

4-6. claims: 1, 2, 4-10(all partially)

Idem as invention 1 but wherein the peptide is defined by SEQ ID Nos: 4-6, respectively.

7-15. claims: 1-10(partially)

Idem as invention 1 but wherein the peptide is defined by SEQ ID Nos: 7-15, respectively.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2014/058234

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2008055059 A2	08-05-2008	US 2008103091 A1 WO 2008055059 A2	01-05-2008 08-05-2008

WO 2012041867 A2	05-04-2012	CA 2809360 A1 CN 103200959 A EP 2621522 A2 US 2012076808 A1 WO 2012041867 A2	05-04-2012 10-07-2013 07-08-2013 29-03-2012 05-04-2012
