



- (51) **International Patent Classification:**
C07K 14/52 (2006.01) *A61K 38/19* (2006.01)
A61K 38/17 (2006.01)
- (21) **International Application Number:**
PCT/EP2024/065720
- (22) **International Filing Date:**
07 June 2024 (07.06.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/507,297 09 June 2023 (09.06.2023) US
- (71) **Applicant:** UNIVERSITÉ DE GENÈVE [CH/CH]; 24 rue du Général-Dufour, 1211 Geneva (CH).
- (72) **Inventors:** CERINI, Fabrice; 23 Rue de Graman, 1241 Puplinge (CH). PAOLINI-BERTRAND, Marianne; 100 Route de Chez Paccot, 74420 Habère Poche (FR). MOTHUKURI, Ganesh Kumar; 3 Rue Guye, 1203 Geneva (CH). CALO, Nicolas; 7 Rue des Tournelles, 74100 Annemasse (FR). ROSSITTO-BORLAT, Irène; 21 Chemin Charles-Poluzzi, 1227 Carouge (CH). ANGERANI, Simona; Rue des Voisins 8, 1205 Geneva (CH). HARTLEY, Oliver; 12 chemin Lullin, 1256 Troinex (CH).
- (74) **Agent:** ZACCO DENMARK A/S; Arne Jacobsens Allé 15, 2300 København S (DK).
- (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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.
- (84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, 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, ME, 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).

(54) **Title:** CCR1 MODULATORS AND METHODS OF USE

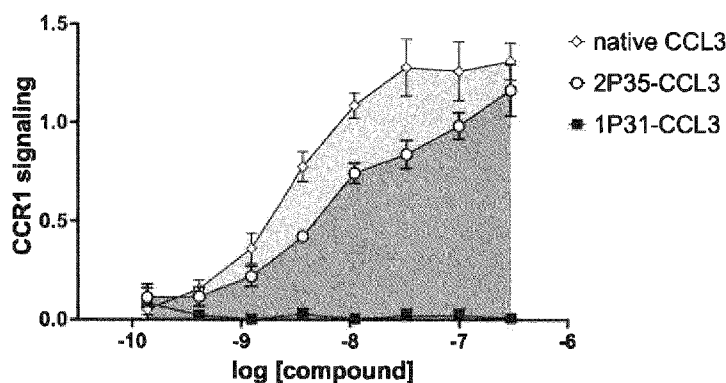


FIG. 1

(57) **Abstract:** The disclosure provides polypeptides, peptides, and conjugates relating to CCL3 N-terminal variants comprising an N-terminal portion and a C-terminal portion, wherein the N-terminal portion comprises an amino acid sequence with 0, 1, 2, 3, 4, 5, or 6 amino acid substitutions relative to any one of SEQ ID NO: 3-86, and wherein the C-terminal portion comprises an amino acid sequence at least 70% identical to SEQ ID NO: 2, and methods of use thereof.



Published:

- *with international search report (Art. 21(3))*
- *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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

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

16 January 2025 (16.01.2025)

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2024/065720

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>NIBBS R J B ET AL: "LD78beta, anon-allelic variant of human MIP-1alpha (LD78alpha), has enhanced receptor interactions and potent HIV suppressive activity",</p> <p>JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY, US,</p> <p>vol. 274, no. 25,</p> <p>18 June 1999 (1999-06-18), pages 17478-17483, XP002129767,</p> <p>ISSN: 0021-9258, DOI: 10.1074/JBC.274.25.17478</p> <p>figure 1</p> <p>page 17479, left-hand column</p> <p>abstract</p> <p style="text-align: center;">-----</p>	1-20
X	<p>MENTEN P ET AL: "THE LD78BETA ISOFORM OF MIP-1ALPHA IS THE MOST POTENT CCR5 AGONIST AND HIV-1-INHIBITING CHEMOKINE",</p> <p>THE JOURNAL OF CLINICAL INVESTIGATION, B M J GROUP,</p> <p>vol. 104, no. 4,</p> <p>1 August 1999 (1999-08-01), pages R01-R05, XP000867805,</p> <p>DOI: 10.1172/JCI7318</p> <p>page R1, right-hand column</p> <p style="text-align: center;">-----</p>	1-20
X	<p>WO 93/13206 A1 (BRITISH BIO TECHNOLOGY [GB]) 8 July 1993 (1993-07-08)</p> <p>page 137 - page 138; table 2</p> <p>examples 36, 39, 40, 41, 45-47, 51</p> <p style="text-align: center;">-----</p>	1-20
A	<p>DATABASE UNIPROT [Online]</p> <p>22 February 2023 (2023-02-22),</p> <p>"Uncharacterized protein",</p> <p>XP093207844,</p> <p>Database accession no. A0A6A6FF96</p> <p>abstract</p> <p style="text-align: center;">-----</p>	1-20

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2024/065720

Box No. I 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:
 - a. forming part of the international application as filed.
 - b. furnished subsequent to the international filing date for the purposes of international search (Rule 13*ter*.1(a)).
 accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this report has been established to the extent that a meaningful search could be carried out without a WIPO Standard ST.26 compliant sequence listing.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2024/065720

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 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 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.:
1-20 (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: 1-20 (partially)

A polypeptide comprising an N-terminal portion and a C-terminal portion, and wherein the C-terminal portion comprises an amino acid sequence at least 70% identical to SEQ ID NO: 2,

wherein the N-terminal portion is defined by SEQ ID NO:3. Further peptide, conjugate, nucleic acid, pharmaceutical composition, methods relating thereto.

2-84. claims: 1-20 (partially)

As invention 1, but wherein the N-terminal portion is defined by SEQ ID NOs 4-86 respectively.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2024/065720

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 2004197303	A1	07-10-2004	BR 0314212 A	19-07-2005
			CA 2498723 A1	25-03-2004
			EP 1536834 A2	08-06-2005
			EP 1834961 A2	19-09-2007
			JP 2005539063 A	22-12-2005
			JP 2007106768 A	26-04-2007
			US 2004197303 A1	07-10-2004
			US 2007066523 A1	22-03-2007
			WO 2004024088 A2	25-03-2004

WO 9313206	A1	08-07-1993	AU 679436 B2	03-07-1997
			CA 2125985 A1	08-07-1993
			EP 0627003 A1	07-12-1994
			FI 943024 A	22-06-1994
			HU 211605 A9	28-12-1995
			JP H07502404 A	16-03-1995
			NZ 246354 A	26-10-1995
			US 5856301 A	05-01-1999
			US 6057123 A	02-05-2000
			WO 9313206 A1	08-07-1993
