

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
02 March 2023 (02.03.2023)



(10) International Publication Number
WO 2023/026245 A1

(51) International Patent Classification:
C07K 16/18 (2006.01) *A61P 25/06* (2006.01)
A61K 39/395 (2006.01)

(21) International Application Number:
PCT/IB2022/058002

(22) International Filing Date:
26 August 2022 (26.08.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/237,639 27 August 2021 (27.08.2021) US

(71) Applicant: **H. LUNDBECK A/S** [DK/DK]; Ottilievej 9,
2500 VALBY (DK).

(72) Inventors: **SPERLING, Bjorn**; Ottilievej 9, 2500 Valby
(DK). **LARSEN, Frank**; Ottilievej 9, 2500 Valby (DK).
KLEWE, Ib Vestergaard; Ottilievej 9, 2500 Valby (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, 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, 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, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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).

Declarations under Rule 4.17:

- as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

(54) Title: TREATMENT OF CLUSTER HEADACHE USING ANTI-CGRP ANTIBODIES

Figure 1A - Heavy Chain Protein Sequence

Sequence	Variable Region Sequences			
Name	FR1	CDR1	FR2	CDR2
Ab1	QSLVESGGRLVTPGTPLTLTCTVSGLDLS	SYMQ	WVRQAPGKGLEWIG	VIGINDNTYYASWAKG
Ab2	EVQLVESGGGLVQPGGSLRLSCAVSGGLDS	SYMQ	WVRQAPGKGLEWVG	VIGINDNTYYASWAKG
Ab3	EVQLVESGGGLVQPGGSLRLSCAVSGGLDS	SYMQ	WVRQAPGKGLEWVG	VIGINDNTYYASWAKG
Ab4	QSLVESGGRLVTPGTPLTLTCTVSGLDLS	GYMN	WVRQAPGKGLEWIG	VIGINGATYYASWAKG
Ab5	EVQLVESGGGLVQPGGSLRLSCAVSGIDLDS	GYMN	WVRQAPGKGLEWVG	VIGINGATYYASWAKG
Ab6	EVQLVESGGGLVQPGGSLRLSCAVSGIDLDS	GYMN	WVRQAPGKGLEWVG	VIGINGATYYASWAKG
Ab7	QSLVESGGRLVTPGSLTLTCTVSGLDLS	NEYMQ	WVRQAPGKGLEWIG	VVINGRTYYASWAKG
Ab8	EVQLVESGGGLVQPGGSLRLSCAVSGIDLDS	NEYMQ	WVRQAPGKGLEWVG	VVINGRTYYASWAKG
Ab9	QSLVESGGRLVTPGTPLTLTCTVSGLGLS	SYMQ	WVRQSPGKGLEWIG	VIGSDGKTYATWAKG
Ab10	EVQLVESGGGLVQPGGSLRLSCAVSGIGLS	SYMQ	WVRQAPGKGLEWVG	VIGSDGKTYATWAKG
Ab11	QSLVESGGRLVTPGSLTLTCTVSGLDVT	NYMQ	WVRQAPGKGLEWIG	VIGVNGKRYASWAKG
Ab12	EVQLVESGGGLVQPGGSLRLSCAVSGIDVT	NYMQ	WVRQAPGKGLEWVG	VIGVNGKRYASWAKG
Ab13	QSLVESGGGLVQPGGSLTLTCTASGDFDS	SNMW	WVRQAPGKGLEWIG	CIYKGGSTYYASWVNG
Ab14	EVQLVESGGGLVQPGGSLRLSCAVSGIGLS	SYMQ	WVRQAPGKGLEWVG	VIGSDGKTYATWAKG

Figure 1B - Heavy Chain Protein Sequence

Sequence			
Name	FR3	CDR3	FR4
Ab1	RFTISPASSTTVLDKMTSLTTEDTATYFCAR	GDI	WGPGTLVTVSS
Ab2	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab3	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab4	RFTISKTSSTTVLDKMTSLTTEDTATYFCAR	GDI	WGPGTLVTVSS
Ab5	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab6	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab7	RFTISRSTSTTVLDKMTSLTTEDTATYFCAR	GDI	WGPGTLVTVSS
Ab8	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab9	RFTISKTSSTTVLDKMTSLTTEDTATYFCAR	GDI	WGPGTLVTVSS
Ab10	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab11	RFTISKTSSTTVLDKMTSLTTEDTATYFCAR	GDI	WGPGTLVTVSS
Ab12	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS
Ab13	RFTISKTSSTTVLDKMTSLTTEDTATYFCAR	DLDEL	WGPGTLVTVSS
Ab14	RFTISRDNSTTVYLQMNLSRAEDTAVYFCAR	GDI	WGQGTILTVSS

(57) Abstract: Methods for treating cluster headache are provided comprising the administration of an anti-CGRP antagonist antibody to a patient in need thereof.

[Continued on next page]

Published:

- *with international search report (Art. 21(3))*
- *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*