

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 March 2024 (07.03.2024)



(10) International Publication Number
WO 2024/047090 A3

(51) International Patent Classification:

A61K 39/12 (2006.01) C12N 7/04 (2006.01)
C07K 14/08 (2006.01) A61K 39/00 (2006.01)

SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:

PCT/EP2023/073756

Declarations under Rule 4.17:

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

(22) International Filing Date:

30 August 2023 (30.08.2023)

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))

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

22192929.2 30 August 2022 (30.08.2022) EP
22197365.4 23 September 2022 (23.09.2022) EP

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

11 April 2024 (11.04.2024)

(71) Applicant: SAIBA ANIMAL HEALTH AG [CH/CH];
Bahnhofstrasse 13, 8808 Pfäffikon (CH).

(72) Inventors: ZELTINS, Andris; Kleistu Str. 69-2, 1067
Riga (LV). TARS, Kaspars; Rigas rajons Olaines pag.
"Viksnas", LV2127 Jaunolaine (LV).

(74) Agent: SPERRLE, Martin; Latscha Schöllhorn Partner
AG, Grellingerstrasse 60, 4052 Basel (CH).

(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,

(54) Title: MODIFIED VIRUS-LIKE PARTICLES OF CMV

(57) Abstract: The present invention relates to a modified virus-like particle (VLP) of cucumber mosaic virus (CMV) comprising at least one chimeric CMV polypeptide, wherein said at least one chimeric CMV polypeptide comprises, preferably consists of (i) a CMV polypeptide, wherein said CMV polypeptide comprises a coat protein of CMV or an amino acid sequence having a sequence identity of at least 75% with SEQ ID NO:48; and (ii) a polypeptide comprising, preferably consisting of, a stretch of consecutive negative amino acids, wherein said negative amino acids are independently selected from aspartic acid or glutamic acid, wherein said polypeptide is inserted between any amino acid residue of said CMV polypeptide corresponding to any amino acid residue between position 75 and position 85 of SEQ ID NO:48, as well as to compositions and pharmaceutical compositions comprising such modified VLPs to which antigens are linked, which compositions preferably serve as vaccine platform for generating immune responses, in particular antibody responses, against said antigens linked to the modified CMV VLPs.



WO 2024/047090 A3