

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
31 October 2024 (31.10.2024)



(10) International Publication Number
WO 2024/223941 A1

(51) International Patent Classification:
C12N 5/071 (2010.01) A61K 35/20 (2006.01)

(21) International Application Number:
PCT/EP2024/061793

(22) International Filing Date:
29 April 2024 (29.04.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
23170502.1 27 April 2023 (27.04.2023) EP
23170503.9 27 April 2023 (27.04.2023) EP
23170510.4 27 April 2023 (27.04.2023) EP

(71) Applicant: SOCIÉTÉ DES PRODUITS NESTLÉ S.A.
[CH/CH]; Avenue Nestlé 55, 1800 Vevey (CH).

(72) Inventors: MASHINCHIAN, Omid; Avenue de Grey
62, 1018 Lausanne (CH). KRAUS, Marine; Route
d'Echallens 5, 1418 Vuarrens (CH). HETTIARACHCHI,
Charith; Chisenmattweg 11, 3510 Konolfingen (CH).
DAYON, Loïc; Route du Clarmont 6B, 1114 COLOM-
BIER (CH). GIUFFRIDA, Francesca; 12 Grand Rue, 1083
MEZIERES (CH). ZOLLINGER, Alix; Sur les Moulins
20, 1026 Denges (CH). PRUVOST, Solenn; 200 Lot Les
Peupliers, 01170 CESSY (FR). YART, Lucile; 31 chemin
du Manoir, 74580 Viry (FR). FERRIER, Laurent; Chemin
du Moléson 19, 1077 Servion (CH).

(74) Agent: GAGLIARDI, Tatiana; Avenue Nestlé 55, 1800
VEVEY (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,
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 applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the
earlier application (Rule 4.17(iii))

Published:

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

WO 2024/223941 A1

(54) Title: METHOD FOR PRODUCING MILK LIKE PRODUCTS

(57) Abstract: A method of producing mammalian breast milk exosomes, for example human breast milk exosomes comprising generating lactocytes derived from mammalian mammary epithelial cells, for example human mammary epithelial cells, expressing the mammalian milk like product, for example the human milk like product from lactocytes, and purifying the exosomes from the mam-malian milk like product.