

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
30 September 2021 (30.09.2021)



(10) International Publication Number
WO 2021/191251 A1

(51) International Patent Classification:

A61K 31/715 (2006.01) A61P 3/06 (2006.01)
A61K 31/702 (2006.01) A61P 3/10 (2006.01)
A61K 31/738 (2006.01) A23L 33/10 (2016.01)
A61K 45/06 (2006.01) A23L 33/00 (2016.01)

(21) International Application Number:

PCT/EP2021/057530

(22) International Filing Date:

24 March 2021 (24.03.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20165487.8 25 March 2020 (25.03.2020) EP

(71) Applicant: **FRIESLANDCAMPINA NEDERLAND B.V.** [NL/NL]; Stationsplein 4, 3818 LE Amersfoort (NL).

(72) Inventor: **TRIAN TIS, Vassilios**; c/o FrieslandCampina Corporate & Support, Intellectual Property Department Bronland 20, 6708 WH Wageningen (NL).

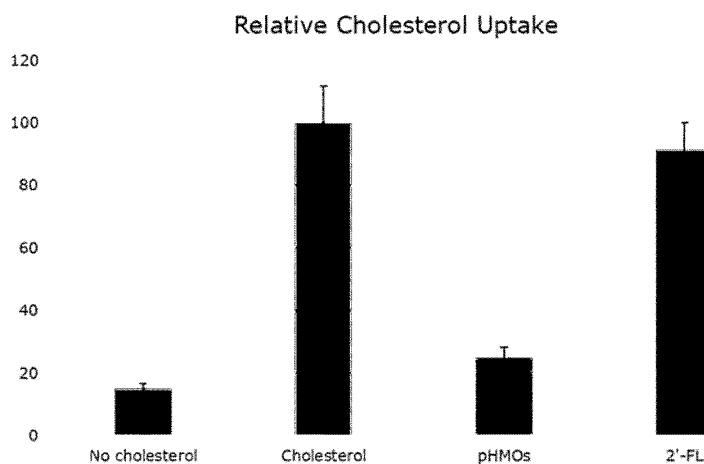
(74) Agent: **FRIESLANDCAMPINA NEDERLAND B.V.**; Bronland 20, 6708 WH Wageningen (NL).

(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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, 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).

(54) Title: COMPOSITIONS COMPRISING ONE OR MORE HMO'S WITH A CORE OF LacNAc-Lac

Figure 1



(57) Abstract: A synthetic composition comprising one or more compounds according to formula (1), or a pharmaceutically acceptable salt, solvate or ester thereof, for use in the modulation of one or more of: i. the cholesterol level; ii. lipolysis; iii. glucose uptake; iv. CD36 receptor activity; wherein the compound of Formula 1 is $Y_n \rightarrow D\text{-Gal-}\beta 1 \rightarrow 3 \text{-(}Y_m \rightarrow \text{)(}X_p \rightarrow \text{)D-GlcNAc-}\beta 1 \rightarrow 3 \text{-D-Gal-}\beta 1 \rightarrow 4 \text{-(}X_q \rightarrow \text{)D-Glc}$ (Formula (1)), wherein X is α -L-Fucose (α -L-Fuc), Y is N-acetyl-D-neuraminic acid (Neu5Ac- α -2-), n, m, p, q indicate the number of the monosaccharide residues present in the compound of formula (1) and n is 0 or 1; m is 0 or 1; p is 0 or 1; q is 0 or 1; and $n+m+p+q \geq 1$.

[Continued on next page]

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *of inventorship (Rule 4.17(iv))*

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))*