

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
20 January 2022 (20.01.2022)



(10) International Publication Number
WO 2022/013439 A1

(51) International Patent Classification:

C07C 229/12 (2006.01) A61K 9/51 (2006.01)
A61K 9/127 (2006.01) A61P 43/00 (2006.01)

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).

(21) International Application Number:

PCT/EP2021/070020

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

(22) International Filing Date:

16 July 2021 (16.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20305824.3 17 July 2020 (17.07.2020) EP

(71) Applicant: **SANOFI PASTEUR** [FR/FR]; 14 Espace Hen-
ry Vallée, 69007 LYON (FR).

(72) Inventors: **HAENSLER, Jean**; c/o Sanofi, 54, rue La
Boetie, 75008 Paris (FR). **EVEN, Luc**; c/o Sanofi, 54, rue
La Boetie, 75008 Paris (FR). **RIPOLL, Manon**; c/o Sanofi,
54, rue La Boetie, 75008 PARIS (FR).

(74) Agent: **CABINET NONY**; 11 rue Saint-Georges, 75009
PARIS (FR).

(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,

(54) Title: CLEAVABLE LIPIDIC COMPOUNDS, COMPOSITIONS CONTAINING THEREOF, AND USES THEREOF

(57) Abstract: The disclosure relates to novel lipidic compounds, method of manufacturing lipid nanoparticles (LNPs) containing thereof, lipid nanoparticles (LNPs) containing thereof, and the use of the LNPs for the delivery of nucleic acid. The lipidic compounds as disclosed herein is a cleavable lipidic compound comprising at least one terminal radical of formula (I): Y-(CHR)n-Z-(CHR')p-Q * (I) wherein: - * is the end linked, directly or not, to one C₁₀ to C₅₅ lipophilic or hydrophobic tail-group; - Y is a radical selected in the group consisting of methyl, methoxy, trifluoromethyl, imidazolyl, or is one hydrogen; - Z is a radical -NH-CH₂-CO-O-** or a radical -CR''(NH₂)-CO-O-** with ** that is the end closest to Q and R'' that is selected in the group consisting of hydrogen, methyl radical and trifluoromethyl radical; - Q is a radical -NH-CH₂-CO-O-*** or a radical -CR''(NH₂)-CO-O-*** with R'' selected in the group consisting of hydrogen, methyl radical and trifluoromethyl radical and *** that is the end linked, directly or not, to said lipophilic or hydrophobic tail-group; - R et R' are, independently one from the other, one hydrogen, one methyl radical or one trifluoromethyl radical; - n et p are independently one from the other 0, 1 or 2; or one of its pharmaceutically acceptable salts and with said compound being in all the possible racemic, enantiomeric and diastereoisomeric isomer forms.

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