

(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 2024/049979 A3

(51) International Patent Classification:

C07D 207/416 (2006.01) C07C 229/12 (2006.01)
A61K 9/127 (2006.01) C07D 295/067 (2006.01)
A61K 47/18 (2017.01)

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).

(21) International Application Number:

PCT/US2023/031669

(22) International Filing Date:

31 August 2023 (31.08.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/402,929 31 August 2022 (31.08.2022) US
63/502,806 17 May 2023 (17.05.2023) US

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))

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

18 April 2024 (18.04.2024)

(71) Applicant: **SENDA BIOSCIENCES, INC.** [US/US]; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US).

(72) Inventors: **BARTOLOZZI, Alessandra**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **PROUDFOOT, John**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **ADHIKARI, Arjit**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **ERDMANN, Roman**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **SALERNO, Dominick**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **HOWE, Alaina**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **PATEL, Siddharth**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US). **OLATUNJI, Feyisola**; 20 Acorn Park Drive, Suite 300, Cambridge, Massachusetts 02140 (US).

(74) Agent: **TOWNES, Jeffrey**; Cozen O'Connor, 1200 19th Street NW, Washington, District of Columbia 20036 (US).

(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,

(54) Title: NOVEL IONIZABLE LIPIDS AND LIPID NANOPARTICLES AND METHODS OF USING THE SAME

(57) Abstract: Novel ionizable lipids and lipid nanoparticles that can be used in the delivery of therapeutic cargos are disclosed.

WO 2024/049979 A3