



(51) International Patent Classification:
A61K 9/51 (2006.01) *C12N 15/11* (2006.01)

(21) International Application Number:
PCT/US2025/017844

(22) International Filing Date:
28 February 2025 (28.02.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/560,490 01 March 2024 (01.03.2024) US

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(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, UY, 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,

(54) Title: MATERIALS AND METHODS FOR ENCAPSULATING THERAPEUTICS IN LIPID NANOPARTICLES

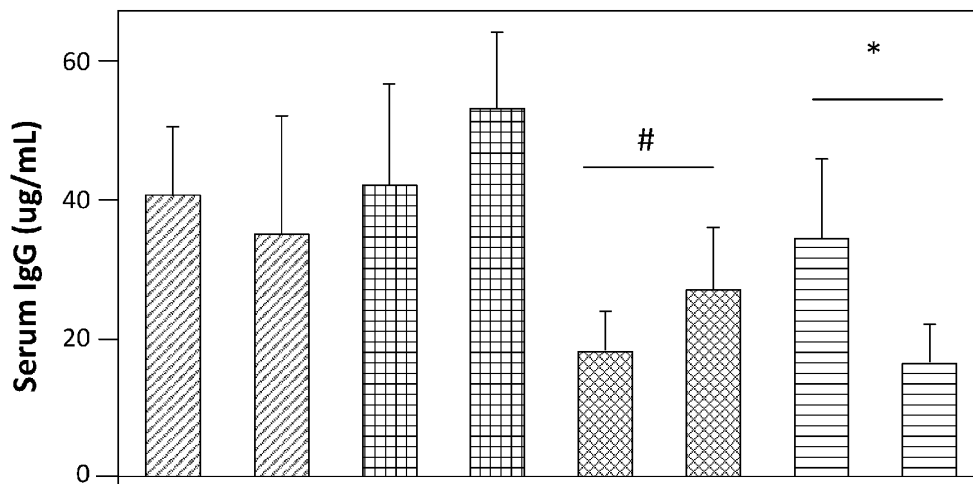


FIG. 1

(57) Abstract: The present disclosure provides methods for preparing lipid nanoparticle formulations that encompass nucleic acid therapeutics (e.g., mRNA). The lipid nanoparticles described herein include ionizable lipids, neutral lipids, charged lipids, steroids (including for example, all sterols and/or their analogs), and/or polymer conjugated lipids. In some instances, the lipid nanoparticles are used to formulate and deliver messenger RNA. Kits and methods for using lipid nanoparticles following formulation for treatment of various diseases or conditions, such as those caused by infectious entities and/or insufficiency of a protein, are also provided.

[Continued on next page]

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:

— *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))*