

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
08 August 2024 (08.08.2024)



(10) International Publication Number
WO 2024/164014 A3

(51) International Patent Classification:

A61K 39/155 (2006.01) C12N 7/00 (2006.01)
A61K 39/12 (2006.01) A61K 39/39 (2006.01)
C07K 14/005 (2006.01) A61K 39/00 (2006.01)

(21) International Application Number:

PCT/US2024/014509

(22) International Filing Date:

05 February 2024 (05.02.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/483,119 03 February 2023 (03.02.2023) US

(71) Applicant: NOVAVAX, INC. [US/US]; 21 Firstfield Road, Gaithersburg, Maryland 20878 (US).

(72) Inventors; and

(71) Applicants: PATEL, Nita [US/US]; c/o Novavax, Inc., 21 Firstfield Road, Gaithersburg, Maryland 20878 (US).
TIAN, Jing-Hui [US/US]; c/o Novavax, Inc., 21 Firstfield Road, Gaithersburg, Maryland 20878 (US). GLENN,

Gregory [US/US]; c/o Novavax, Inc., 21 Firstfield Road, Gaithersburg, Maryland 20878 (US).

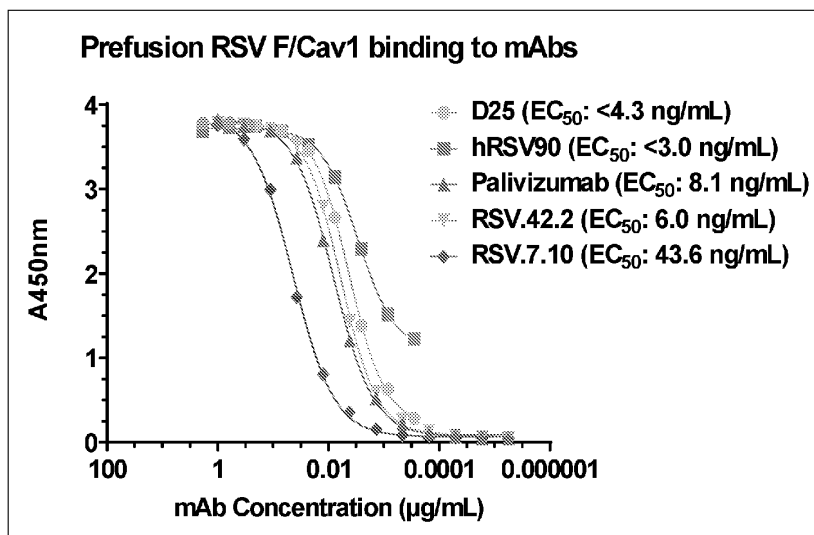
(74) Agent: SPEIER, Gary J.; Carlson, Caspers, Vandenburg & Lindquist, P.A., 225 S. Sixth St., Suite 4200, Minneapolis, Minnesota 55402 (US).

(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, 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: RSV F VACCINE FORMULATIONS

FIG. 1



(57) Abstract: Disclosed herein are RSV F glycoproteins and nanoparticles comprising the same, which are suitable for use in vaccines. The nanoparticles present antigens from pathogens surrounded to and associated with a detergent core resulting in enhanced stability and good immunogenicity. Dosages, formulations, and methods for preparing the vaccines and nanoparticles are also disclosed.

[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:

- *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))*

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

03 October 2024 (03.10.2024)