



(51) International Patent Classification:

C12N 15/86 (2006.01) C07K 14/005 (2006.01)
C12N 7/01 (2006.01)

(21) International Application Number:

PCT/US2023/062378

(22) International Filing Date:

10 February 2023 (10.02.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/267,870 11 February 2022 (11.02.2022) US

(71) Applicant: **INTERIUS BIOTHERAPEUTICS, INC.**
[US/US]; 3401 Grays Ferry Avenue, Building 200, Suite
300, Philadelphia, Pennsylvania 19146 (US).

(72) Inventors: **RUSSELL, Ronnie M.**; 3401 Grays Ferry Av-
enue, Building 200, Suite 300, Philadelphia, Pennsylvania
19146 (US). **SCHNEPP, Bruce**; 3401 Grays Ferry Av-
enue, Building 200, Suite 300, Philadelphia, Pennsylvania
19146 (US). **ANDORKO, James L.**; 3401 Grays Ferry Av-

enue, Building 200, Suite 300, Philadelphia, Pennsylvania
19146 (US). **MARINELLI, Michael**; 3401 Grays Ferry
Avenue, Building 200, Suite 300, Philadelphia, Pennsylva-
nia 19146 (US). **SACHDEVA, Mohit**; 3401 Grays Ferry
Avenue, Building 200, Suite 300, Philadelphia, Pennsyl-
vania 19146 (US). **BORAL, Debasish**; 3401 Grays Ferry
Avenue, Building 200, Suite 300, Philadelphia, Pennsylva-
nia 19146 (US). **FOSS, Jeffery**; 3401 Grays Ferry Avenue,
Building 200, Suite 300, Philadelphia, Pennsylvania 19146
(US).

(74) Agent: **PALLADINO, Alicia M.** et al.; Goodwin Procter
LLP, 100 Northern Avenue, Boston, Massachusetts 02210
(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, MW, MX, MY, MZ, NA, NG,
NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS,

(54) Title: FUSOGENIC RHABDOVIRUS GLYCOPROTEINS AND USES THEREOF

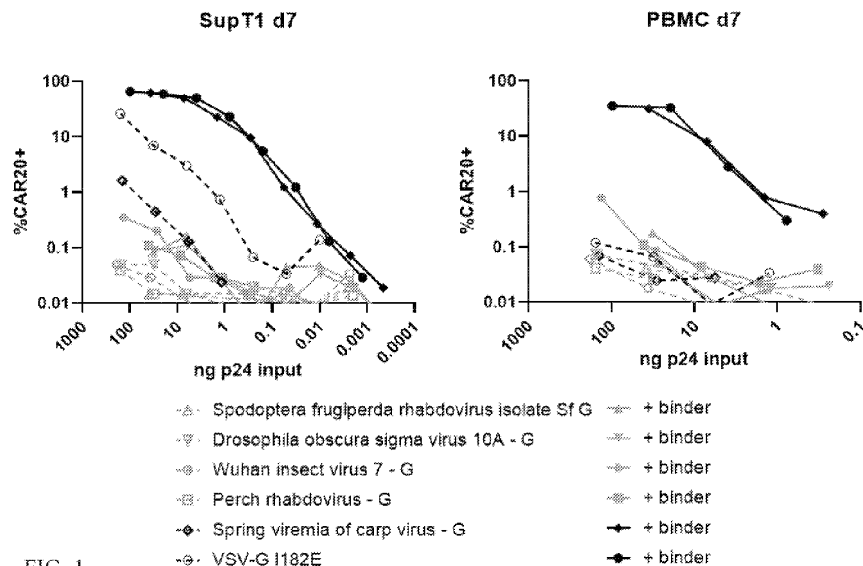


FIG. 1

(57) Abstract: Provided for herein are fusogenic rhabdovirus glycoproteins and uses thereof, compositions comprising the same, and methods of using the same. Also provided for herein are pseudotyped viral particles comprising rhabdovirus glycoproteins as provided for herein and targeting moieties as provided for herein. Also provided are methods of generating and using the pseudotyped viral particles as provided for herein.

[Continued on next page]

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, 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).

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))*
- *with sequence listing part of description (Rule 5.2(a))*

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

21 September 2023 (21.09.2023)