

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
12 August 2021 (12.08.2021)



(10) International Publication Number
WO 2021/159024 A1

(51) International Patent Classification:
C07K 16/10 (2006.01) *G01N 33/53* (2006.01)
A61P 31/18 (2006.01)

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:
PCT/US2021/016959

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))*

(22) International Filing Date:
05 February 2021 (05.02.2021)

(25) Filing Language: English

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))*

(26) Publication Language: English

(30) Priority Data:
62/970,662 05 February 2020 (05.02.2020) US

(71) Applicants: **LARIMAR THERAPEUTICS, INC.**
[US/US]; Three Bala Plaza East, Suite 506, Bala Cynwyd,
PA 19004 (US). **THE UNITED STATE OF AMERI-
CA, AS REPRESENTED BY THE SECRETARY, DE-
PARTMENT OF HEALTH AND HUMAN SERVICE**
[US/US]; The Office of Technology Transfer, National In-
stitutes of Health, 6011 Executive Boulevard, Suite 325,
MSC 7660, Bethesda, MD 20892-7660 (US).

(72) Inventors: **XU, Xin**; 9700 Beman Woods Way, Potomac,
MD 20854 (US). **WAGNER, Erik, Johan**; 406 Gary Ct.,
Sterling, VA 20164 (US). **RUP, Bonita**; 42 Commonwealth
Avenue, Unit #4, Boston, MA 02116 (US).

(74) Agent: **MELLO, Jill, Ann** et al.; McCarter & English,
LLP, 265 Franklin Street, Boston, MA 02110 (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, 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,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,

(54) Title: TAT PEPTIDE BINDING PROTEINS AND USES THEREOF

(57) Abstract: The present invention encompasses TAT peptide binding proteins. Specifically, the invention relates to antibodies that specifically bind to a TAT protein transduction domain. An antibody of the invention can be a full-length antibody or an antigen-binding portion thereof. Methods of making and methods of using the antibodies of the invention for detection, quantification, purification and isolation of TAT protein transduction domain, e.g., a TAT fusion molecule comprising a TAT protein transduction domain, as well as methods of diagnosis and monitoring of HIV and AIDS are also provided herein.



WO 2021/159024 A1