

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
23 November 2023 (23.11.2023)



(10) International Publication Number  
**WO 2023/225593 A2**

- (51) **International Patent Classification:**  
*C07K 14/01* (2006.01) *C12N 15/86* (2006.01)
- (21) **International Application Number:**  
PCT/US2023/067168
- (22) **International Filing Date:**  
18 May 2023 (18.05.2023)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
63/344,019 19 May 2022 (19.05.2022) US  
63/387,337 14 December 2022 (14.12.2022) US

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:**

- without international search report and to be republished upon receipt of that report (Rule 48.2(g))
- with sequence listing part of description (Rule 5.2(a))

- (71) **Applicant: FLAGSHIP PIONEERING INNOVATIONS V, INC.** [US/US]; 55 Cambridge Parkway, 8th Floor, Cambridge, Massachusetts 02142 (US).
- (72) **Inventors: SWANSON, Kurt Adam;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **DELAGRAVE, Simon;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **LIOU, Shu-Hao;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **COHEN, Noah Robert;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **KHAN, Amir;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **YOZWIAK, Nathan Lawrence;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **ARZE, Cesar Augusto;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US). **HAJJAR, Roger Joseph;** 55 Cambridge Parkway, Suite 800E, Cambridge, Massachusetts 02142 (US).
- (74) **Agent: YANG, Peter et al.;** K&L Gates LLP, One Lincoln Street, Boston, Massachusetts 02111 (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,

(54) **Title:** COMPOSITIONS COMPRISING MODIFIED ANELLOVIRUS CAPSID PROTEINS AND USES THEREOF

(57) **Abstract:** This invention relates generally to modified anellovirus capsid proteins, anellovectors, anelloVLPs, and compositions and uses thereof.

WO 2023/225593 A2