

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
13 October 2022 (13.10.2022)



(10) International Publication Number
WO 2022/217110 A1

(51) International Patent Classification:

C12N 15/67 (2006.01) *A61P 27/06* (2006.01)
A61K 38/18 (2006.01) *C12N 15/62* (2006.01)
A61K 48/00 (2006.01) *C12N 15/86* (2006.01)

(21) International Application Number:

PCT/US2022/024101

(22) International Filing Date:

08 April 2022 (08.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/173,280 09 April 2021 (09.04.2021) US

(71) Applicant: **AVIRMAX, INC.** [US/US]; 25503 Whitesell Street, Hayward, California 94545 (US).

(72) Inventors: **LIU, Shengjiang**; 25503 Whitesell Street, Hayward, California 94545 (US). **CHEN, Haifeng**; 25503 Whitesell Street, Hayward, California 94545 (US).

(74) Agent: **BARKER, Adrian**; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, California 94304 (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, JM, 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: COMPOSITIONS AND METHODS FOR OCULAR TRANSGENE EXPRESSION

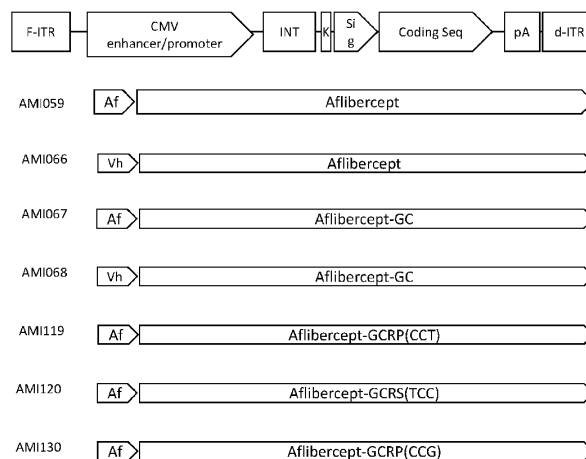


Fig. 1

(57) Abstract: Provided herein are compositions and methods comprising non-naturally occurring nucleic acid sequences that encode biologics. Also provided are methods of utilizing the provided compositions and methods as ocular therapeutics for prevention and treatment of various diseases and conditions.

[Continued on next page]

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))*

Published:

- *with international search report (Art. 21(3))*
- *with sequence listing part of description (Rule 5.2(a))*