

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
14 March 2024 (14.03.2024)



(10) International Publication Number
WO 2024/052733 A1

(51) International Patent Classification:
A61F 9/00 (2006.01) *A61M 5/158* (2006.01)

(21) International Application Number:
PCT/IB2023/000521

(22) International Filing Date:
05 September 2023 (05.09.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/403,926 06 September 2022 (06.09.2022) US
63/455,131 28 March 2023 (28.03.2023) US

(71) Applicant: **GYROSCOPE THERAPEUTICS LIMITED** [GB/GB]; Rolling Stock Yard, 188 York Way, London, England N7 9AS (GB).

(72) Inventors: **MEYER, Thomas, E.**; 2200 Renaissance Boulevard, Suite 410, King of Prussia, PA 19406 (US). **WOOLEY, Chase**; 8001 Vine Crest Avenue, Suite #4, Louisville, KY 40222 (US). **STONER, Kirsten**; 2200 Renaissance Boulevard, Suite 410, King of Prussia, PA 19406 (US). **CREEL, Justin**; 2200 Renaissance Boulevard, Suite 410, King of Prussia, PA 19406 (US). **KEANE, Michael**; 250 Truman Way, Downingtown, PA 19335 (US). **CAMACHO, Sergio**; 2200 Renaissance Boulevard, Suite 410, King of Prussia, PA 19406 (US). **HEDGELAND, Mark**; 2200 Renaissance Boulevard, Suite 410, King of Prussia, PA 19406 (US). **MISER, John**; 2301 Centennial Boulevard, Jeffersonville, IN 47130 (US). **KLINGENSMITH, Rory**; 2200 Renaissance Boulevard, Suite 410, King of Prussia, PA 19406 (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,

(54) Title: APPARATUS FOR SUBRETINAL ADMINISTRATION OF THERAPEUTIC AGENT VIA DUAL-CURVED NEEDLE

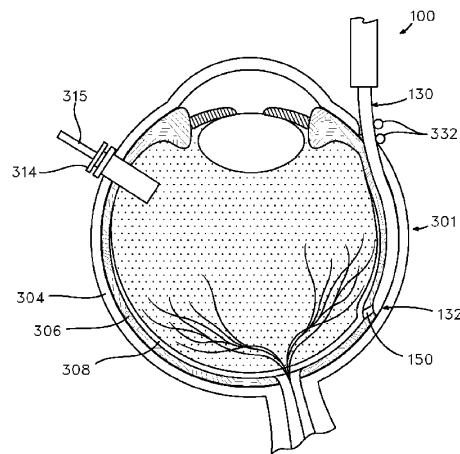


FIG. 7E

(57) Abstract: An apparatus includes a body, a flexible cannula, and a needle. The cannula is sized and configured to advance between a sclera and a choroid of a patient's eye. The needle is slidably disposed in the cannula and includes a sharp distal tip. The needle translates relative to the cannula between a proximal position and a distal position. The distal tip is positioned inside the cannula when the needle is in the proximal position. The distal tip is positioned outside the cannula when the needle is in the distal position. The needle is resiliently biased to extend along at least one proximal curve through least one proximal curved needle portion. The needle is resiliently biased to extend along at least one distal curve through at least one distal curved needle portion. The at least one distal curve is different from the at least one proximal curve.

[Continued on next page]

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, 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))