

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

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2020/016221 A1

(43) International Publication Date
23 January 2020 (23.01.2020)

(51) International Patent Classification:

A61K 35/39 (2015.01) *A61P 3/10* (2006.01)
A61K 31/713 (2006.01) *A61K 9/00* (2006.01)
A61K 48/00 (2006.01)

(21) International Application Number:

PCT/EP2019/069108

(22) International Filing Date:

16 July 2019 (16.07.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/700,583 19 July 2018 (19.07.2018) US
62/700,587 19 July 2018 (19.07.2018) US

(72) Inventor; and

(71) Applicant: **BERGGREN, Per Olof** [SE/SE]; c/o Biocrine
AB, Box 3073, 16903 Solna (SE).

(74) Agent: **ZWICKER, Jörk**; Zwicker Schnappauf & Partner
PartG mbB, Hansastr. 32, 80686 Munich (DE).

(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, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, 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))

WO 2020/016221 A1

(54) Title: METHODS AND REAGENTS FOR TREATING DIABETES

(57) Abstract: Disclosed are methods for treating or limiting development of diabetes, by transplanting into the eye of a subject with diabetes or at risk of diabetes an amount effective to treat or limit development of diabetes of insulin-producing cells engineered to reduce expression of a $\beta 3$ subunit of Ca_v ($Ca_v\beta 3$).