

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

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2022/218876 A1

(43) International Publication Date
20 October 2022 (20.10.2022)

(51) International Patent Classification:

C07K 14/575 (2006.01) C12N 5/071 (2010.01)

(21) International Application Number:

PCT/EP2022/059516

(22) International Filing Date:

08 April 2022 (08.04.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

63/173,622 12 April 2021 (12.04.2021) US

(71) Applicant: **BIOCRINE AB** [SE/SE]; Box 3073, 169 03 Solna (SE).

(72) Inventors: **BERGGREN, Per Olof**; c/o Biocrine AB, Box 3073, 169 03 Solna (SE). **LEIBIGER, Ingo**; c/o Biocrine AB, Box 3073, 169 03 Solna (SE). **LEIBIGER, Barbara**; c/o Biocrine AB, Box 3073, 169 03 Solna (SE).

(74) Agent: **ZWICKER, Jörk**; Zwicker Schnappauf & Partner Patentanwälte PartG mbB, Hansastr. 32, 80686 München (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, 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, 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))
- with sequence listing part of description (Rule 5.2(a))

(54) Title: PANCREATIC ISLET ORGANOID AS PROTEIN FACTORIES

(57) Abstract: Engineered pancreatic islet organoids encoding a polypeptide not endogenously expressed in pancreatic islet cells and methods for using them to treat diseases and disorders associated with reduced or absent expression of the polypeptide are provided.



WO 2022/218876 A1