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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
08 October 2020 (08.10.2020)

WIPO | PCT

(10) International Publication Number
WO 2020/201629 A1

(51) International Patent Classification:
C12N 5/079 (2010.01)

(21) International Application Number:
PCT/FI2020/050210

(22) International Filing Date:
31 March 2020 (31.03.2020)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20195258 01 April 2019 (01.04.2019) FI

(71) Applicant: **TAMPERE UNIVERSITY FOUNDATION SR** [FI/FI]; c/o Tampereen yliopisto, 33014 Tampereen yliopisto (FI).

(72) Inventors: **VATTULAINEN, Meri**; c/o Tampereen yliopisto, 33014 Tampereen yliopisto (FI). **VIIRI, Keijo**; c/o Tampereen yliopisto, 33014 Tampereen yliopisto (FI). **ILMARINEN, Tanja**; c/o Tampereen yliopisto, 33014 Tampereen yliopisto (FI). **SKOTTMAN, Heli**; c/o Tampereen yliopisto, 33014 Tampereen yliopisto (FI).

(74) Agent: **KOLSTER OY AB**; (Salmisaarenaukio 1), P.O.Box 204, 00181 Helsinki (FI).

(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, 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).

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))*
— *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

(54) Title: METHOD FOR OBTAINING OR MAINTAINING ABCG2-POSITIVE CORNEAL LIMBAL STEM CELLS

(57) Abstract: The present invention provides a method of producing ABCG2-positive corneal limbal stem cells through inducing pluripotent stem cells first into eye precursor cells and then differentiating the eye precursor cells into ABCG2-positive corneal limbal stem cells. The invention also provides a method of maintaining ABCG2-positive phenotype of corneal limbal stem cells, such as primary corneal limbal stem cells.

WO 2020/201629 A1