

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
08 November 2018 (08.11.2018)



(10) International Publication Number
WO 2018/202900 A1

(51) International Patent Classification:

C12N 5/078 (2010.01) C12N 5/00 (2006.01)

C12N 5/0786 (2010.01)

(21) International Application Number:

PCT/EP2018/061618

(22) International Filing Date:

04 May 2018 (04.05.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

1707143.2 04 May 2017 (04.05.2017) GB

(71) Applicant: **PLASTICELL LIMITED** [GB/GB]; Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage SG1 2FX (GB).

(72) Inventors: **TARUNINA, Marina**; c/o Plasticell Ltd, Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage Hertfordshire SG1 2FX (GB). **HUMBERT, Cedric**; c/o Plasticell Ltd, Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage Hertfordshire SG1 2FX (GB). **ALI, Shahzad**; c/o Plasticell Ltd, Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage Hertfordshire SG1 2FX (GB). **CHOO, Yen**; c/o Plasticell Ltd, Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage Hertfordshire SG1 2FX (GB). **TSU TSHEN CHUANG, Aaron**; c/o Plasticell Ltd, Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage Hertfordshire SG1 2FX (GB). **SAW, Dennis**; c/o Plasticell Ltd, Stevenage Bioscience Catalyst, Gunnel Wood Road, Stevenage Hertfordshire SG1 2FX (GB).

(74) Agent: **MASCHIO, Antonio**; Maschio & Soames IP Limited, 30 Carlton Crescent, Southampton Hampshire SO15 2EW (GB).

(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 2018/202900 A1

(54) Title: METHODS FOR PRODUCING CELLS OF THE HEMATOPOIETIC LINEAGE USING HYDROGEL ENCAPSULATION

(57) Abstract: A hydrogel capsule comprising a stem cell core that has been induced to differentiate into a hematopoietic lineage cell, and methods for the production of hematopoietic lineage cells from stem cells encapsulated in a hydrogel.