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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
13 June 2013 (13.06.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/085464 A1

(51) International Patent Classification:
C12N 5/071 (2010.01) *G01N 33/50* (2006.01)

(21) International Application Number:
PCT/SG2012/000457

(22) International Filing Date:
6 December 2012 (06.12.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
201109082-6 6 December 2011 (06.12.2011) SG

(71) Applicant: **SINGAPORE HEALTH SERVICES PTE LTD** [SG/SG]; 31 Third Hospital Avenue, #03-03 Bowyer Block C, Singapore 168753 (SG).

(72) Inventors: **SHIM, Se Ngie, Winston**; c/o Singapore Health Services Pte Ltd., 31 Third Hospital Avenue, #03-03 Bowyer Block C, Singapore 168753 (SG). **YONG, Jean Ai, Pearly**; c/o Singapore Health Services Pte Ltd., 31 Third Hospital Avenue, #03-03 Bowyer Block C, Singapore 168753 (SG). **WONG, En Hou, Philip**; c/o Singapore Health Services Pte Ltd., 31 Third Hospital Avenue, #03-03 Bowyer Block C, Singapore 168753 (SG).

(74) Agent: **CHUNG, Jing, Yeng**; Marks & Clerk Singapore LLP, Tanjong Pagar, P.O. Box 636, Singapore 910816 (SG).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, 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, 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, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

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))*

WO 2013/085464 A1

(54) Title: METHOD FOR PREPARING IMPROVED CARDIOMYOCYTE-LIKE CELLS

(57) Abstract: The present invention relates to the field of cell differentiation. In particular, the present invention relates to a method for preparing improved cardiomyocyte-like cells differentiated from at least one multipotent or pluripotent cell, comprising a step of contacting the cardiomyocyte-like cell(s) with at least one agent to promote and/or induce integrin subunit alpha-V (integrin α_v) activity, thereby modulating expression of at least one cardiac gene of said cardiomyocyte-like cells. It also relates to a method for screening for an agent capable of improving cardiomyocytes differentiated from at least one multipotent or pluripotent cell.