

(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)



(10) International Publication Number
WO 2020/205717 A1

(51) International Patent Classification:

A61L 27/38 (2006.01) C12N 15/63 (2006.01)
C12N 15/86 (2006.01)

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

(21) International Application Number:

PCT/US2020/025684

Published:

— with international search report (Art. 21(3))

(22) International Filing Date:

30 March 2020 (30.03.2020)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/826,639 29 March 2019 (29.03.2019) US

(71) Applicant: **KOLON TISSUEGENE, INC.** [US/US]; 9713
Key West Ave., Suite 300, Rockville, MD 20850 (US).

(72) Inventors: **NOH, Moon, Jong**; 9713 Key West Ave., Suite
300, Rockville, MD 20850 (US). **YI, Youngsuk**; 9713 Key
West Ave., Suite 300, Rockville, MD 20850 (US). **SONG,
Sun, Uk**; 9713 Key West Ave., Suite 300, Rockville, MD
20850 (US). **LEE, Dug, Keun**; 9713 Key West Ave., Suite
300, Rockville, MD 20850 (US). **LEE, Kwan, Hee**; 9713
Key West Ave., Suite 300, Rockville, MD 20850 (US).

(74) Agent: **KIM, Joseph, Hyosuk**; Nixon & Vanderhye
P.C., 901 North Glebe Road, 11th Floor, Arlington, VA
22203-1808 (US).

(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).

(54) Title: CARTILAGE REGENERATION USING CHONDROCYTE AND TGF- β

(57) Abstract: The present application is directed to a method of treating osteoarthritis, which includes obtaining a member of a transforming growth factor superfamily of proteins; obtaining a population of cultured mammalian cells that may contain vector encoding a gene, or a population of cultured connective tissue cells that do not contain any vector encoding a gene; and then transferring the protein and the connective tissue cells into an arthritic joint space of a mammalian host, such that the activity of the combination within the joint space results in regenerating connective tissue.

WO 2020/205717 A1