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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
03 October 2019 (03.10.2019)

WIPO | PCT

(10) International Publication Number
WO 2019/185565 A1

(51) International Patent Classification:
C12M 1/34 (2006.01)

(21) International Application Number:
PCT/EP2019/057479

(22) International Filing Date:
26 March 2019 (26.03.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
18163900.6 26 March 2018 (26.03.2018) EP

(71) Applicant: **MEDIZINISCHE UNIVERSITÄT WIEN** [AT/AT]; Spitalgasse 23, 1090 Vienna (AT).

(72) Inventor: **PICHLER, Verena**; Barmherzigengasse 20/2/37, 1030 Vienna (AT).

(74) Agent: **SONN & PARTNER PATENTANWÄLTE**; Riemergasse 14, 1010 Vienna (AT).

(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).

Declarations under Rule 4.17:
— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
— *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))*

(54) **Title:** DEVICE AND METHOD FOR MICRO-PET OR MICRO-SPECT OF A CELL CULTURE

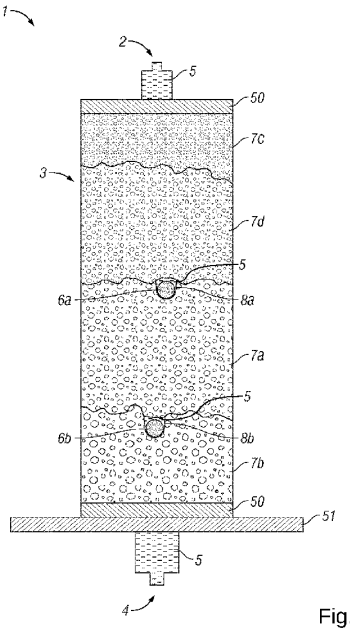


Fig. 1

(57) **Abstract:** The present invention provides a biocompatible column (1) for concurrent micro-positron emission tomography (micro-PET) or micro-single photon emission computed tomography (micro-SPECT) of at least two cell cultures, the column comprising an inlet (2), an axially oriented perfusion chamber (3) and an outlet (4), wherein the perfusion chamber (3) comprises a porous solid phase comprising sponges (7a, 7b, 7c, 7d) comprising biopolymer (such as silk, silk fibroin, collagen, gelatin, agarose, alginate, polylactic acid, agar, or methylcellulose), an aqueous liquid phase (5), a first cell culture (6a) and a second cell culture (6b), wherein the first cell culture (6a) and the second cell culture (6b) are in contact with the solid phase and wherein the first cell culture (6a) is separated from the second cell culture (6b) by the solid phase. Also provided is a method and a kit for concurrent micro-PET or micro-SPECT of at least two cell cultures.

WO 2019/185565 A1