

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 October 2007 (25.10.2007)

PCT

(10) International Publication Number
WO 2007/120183 A3

(51) International Patent Classification:
C12M 1/22 (2006.01) *B01L 3/00* (2006.01)

(21) International Application Number:
PCT/US2006/039929

(22) International Filing Date: 10 October 2006 (10.10.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/725,219 10 October 2005 (10.10.2005) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

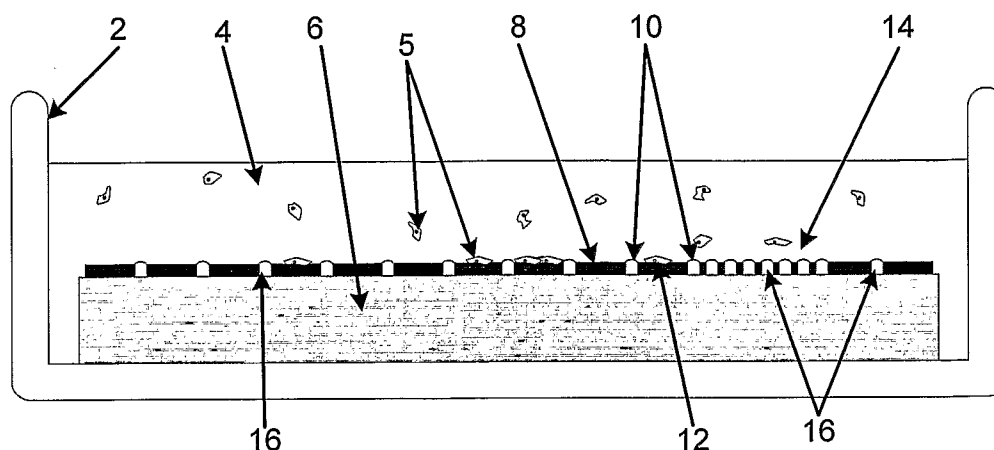
Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
10 January 2008

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A MICRO-BUBBLE PLATE FOR PATTERNING BIOLOGICAL AND NON-BIOLOGICAL MATERIALS



(57) Abstract: Systems and methods for patterning biological and non-biological material at specific sites on a plate, as well as growing three dimensional structures. Preferred embodiments comprise a plate (6) with regions (16) that will trap gas, usually in the form of bubbles (10), when the plate (6) is submerged in liquid. Other embodiments of the present invention include a method for placing materials on the plate (6) at predetermined locations through the use of trapped gas to prevent materials from collecting at unwanted regions. The plate (6) has great utility for plating cells and tissues (5) at specific sites, such as on an array. The disclosed method can also be used to coat the surface of a plate (6) at specific locations for patterned coating applications and to build up materials to produce three dimensional structures, including micromechanical structures where the structures may be formed from living or nonliving material, organic or inorganic, and the like.

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