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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 November 2010 (11.11.2010)

PCT

(10) International Publication Number
WO 2010/129288 A2

(51) International Patent Classification:
A61B 5/00 (2006.01) *A61B 5/02* (2006.01)

(21) International Application Number:
PCT/US2010/032590

(22) International Filing Date:
27 April 2010 (27.04.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/173,511 28 April 2009 (28.04.2009) US
61/173,564 28 April 2009 (28.04.2009) US

(71) Applicant *(for all designated States except US)*: **PROTEUS BIOMEDICAL, INC.** [US/US]; 2600 Bridge Parkway, Suite 101, Redwood City, CA 94065 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **HAFEZI, Hooman** [US/US]; 64 Eddystone Court, Redwood City, 94065 (US). **AU-YEUNG, Kit, Yee** [CN/US]; 250 King Street #1510, San Francisco, CA 94107 (US). **DUCK, Robert** [US/US]; 1800 Washington Street #118, San Francisco, CA 94109 (US). **HOLEN, Maria** [US/US]; 2261 River Bed Court, Santa Clara, CA 95054 (US). **ROBERTSON, Timothy** [US/US]; 2719 Sequoia Way, Belmont, CA 94002 (US). **COSTELLO, Benedict** [GB/US]; 1316 Josephine Street, Berkeley, CA 94703 (US).

(74) Agent: **FIELD, Bret**; Bozicevic Field & Francis LLP., 1900 University Avenue, Suite 200, East Palo Alto, CA 94303 (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, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

WO 2010/129288 A2

(54) **Title**: HIGHLY RELIABLE INGESTIBLE EVENT MARKERS AND METHODS FOR USING THE SAME

(57) **Abstract**: Ingestible event markers having high reliability are provided. Aspects of the ingestible event markers include a support, a control circuit, a first electrochemical material, a second electrochemical material and a membrane. In addition, the ingestible event markers may include one or more components that impart high reliability to the ingestible event marker. Further, the ingestible event markers may include an active agent. In some aspects, the active agent, such as a pharmaceutically active agent or a diagnostic agent may be associated with the membrane.