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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 April 2004 (29.04.2004)

PCT

(10) International Publication Number
WO 2004/036176 A3

(51) International Patent Classification[7]: G01N 33/543

(21) International Application Number:
PCT/US2003/032581

(22) International Filing Date: 16 October 2003 (16.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/418,359 16 October 2002 (16.10.2002) US

(71) Applicant *(for all designated States except US)*: **DUKE UNIVERSITY** [US/US]; 230 North Building, Research Drive, Box 90083, Durham, NC 27708-0083 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **HELLINGA, Homme, W.** [GB/US]; 5212 Pine Cone Lane, Durham, NC 27705 (US). **LOOGER, Loren, L.** [US/US]; 128 Scenic Drive, Madison, AL 35758 (US).

(74) Agent: **TANIGAWA, Gary, R.**; Nixon & Vanderhye P.C., 1100 North Glebe Road, Suite 800, Arlington, VA 22201-4714 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (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:
29 July 2004

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: BIOSENSOR

(57) Abstract: Biosensors are made by attaching covalently or non-covalently at least one reporter group to one or more specific positions of a bacterial periplasmic binding protein (bPBP). Upon binding of ligand to the biosensor, there is a change in the signal transduced by the reporter group.

WO 2004/036176 A3