

(43) International Publication Date
11 February 2016 (11.02.2016)

- (51) **International Patent Classification:**
G01N 33/569 (2006.01) *C07K 14/18* (2006.01)
- (21) **International Application Number:**
PCT/SG2015/050248
- (22) **International Filing Date:**
3 August 2015 (03.08.2015)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
10201404571P 3 August 2014 (03.08.2014) SG
- (71) **Applicant:** MP BIOMEDICALS ASIA PACIFIC PTE LTD [SG/SG]; 2 Pioneer Place, Singapore 627885 (SG).
- (72) **Inventors:** HU, Weiping; c/o MP Biomedicals Asia Pacific Pte Ltd, 2 Pioneer Place, Singapore 627885 (SG). TEOH, Lay Sin, Ivy; c/o MP Biomedicals Asia Pacific Pte Ltd, 2 Pioneer Place, Singapore 627885 (SG). SOE, Mya Mya; c/o MP Biomedicals Asia Pacific Pte Ltd, 2 Pioneer Place, Singapore 627885 (SG). SIL, Bijon Kumar; c/o MP Biomedicals Asia Pacific Pte Ltd, 2 Pioneer Place, Singapore 627885 (SG).
- (74) **Agent:** AMICA LAW LLC; 30 Raffles Place, #14-01 Chevron House, Singapore 048622 (SG).

(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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, 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).

Published:

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

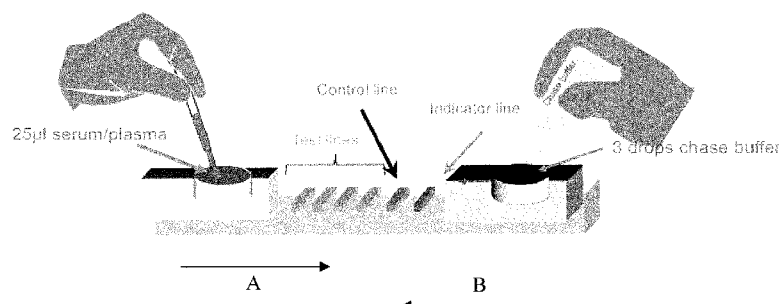
(54) **Title:** METHOD AND KIT FOR DETECTING A DENGUE VIRUS INFECTION

Figure 16

(57) **Abstract:** The present invention provides Dengue Multiplex based "point of care test" (POCT) for the simultaneous detection two contrast immunological components (antigens and antibodies) in a subject who has had exposure to a dengue virus or immunological relative thereof or who has develop either some level of immunity against a dengue virus antigen and/or antigens synthesized in dengue virus infected cell in host body. The method is predicted in detection of two different classes binding partners: dengue specific antibodies (IgA, IgM & IgG) and antigens: non-structural- 1 (NS1) and structural (envelope). This unique combination of five bio-markers will over-come the current challenge of dengue diagnosis where detection of dengue secondary infection is always in question. The POCT comprises contacting a biological sample from the subject with a mixture of dengue virus specific immunogenic components; and determining the presence of a complex that forms between a binding partners in the biological sample and a dengue virus specific immunogenic component; and characterizing the binding partners in the complex with an anti-binding partners: antibodies and antigen conjugated with gold colloid using double chamber reverse flow technology.