



(51) International Patent Classification:
C12Q 1/68 (2006.01)

(21) International Application Number:
PCT/EP2010/063751

(22) International Filing Date:
17 September 2010 (17.09.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/277,046 18 September 2009 (18.09.2009) US
0917457.4 6 October 2009 (06.10.2009) GB
61/278,387 6 October 2009 (06.10.2009) US

(71) Applicant (for all designated States except US): **GLAXO-SMITHKLINE BIOLOGICALS S.A.** [BE/BE]; Rue de l'Institut 89, B-1330 Rixensart (BE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BRICHARD, Vincent** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart (BE). **DIZIER, Benjamin, Georges, Elie, Lea, Ghislain** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart (BE). **GRUSELLE, Olivier** [BE/BE]; GlaxoSmithKline Biologicals s.a., rue de l'Institut 89, B-1330 Rixensart (BE). **LOUAHED, Jamila** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart (BE). **ULLOA-MONTOYA, Fernando** [MX/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart (BE).

(74) Agents: **O'FARRELL, Damien John** et al.; GlaxoSmithKline, Global Patents (CN925.1), 980 Great West Road, Brentford, Middlesex TW8 9GS (GB).

(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 (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, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, 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))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- 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))
- with sequence listing part of description (Rule 5.2(a))

(54) Title: METHOD FOR IDENTIFYING WHETHER A PATIENT WILL BE RESPONDER OR NOT TO IMMUNOTHERAPY

(57) Abstract: Methods for characterisation of patients as responders or non-responders to therapy based on differential expression of one or more genes are provided. Gene expression profiles, microarrays comprising nucleic acid sequences representing gene expression profiles, and new diagnostic kits and methods of treatment are also provided. The kits and methods relate to the treatment of specific populations of, for example, cancer patients, as characterised by their gene expression profile, suffering from MAGE expressing tumours.

