

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
26 March 2009 (26.03.2009)(10) International Publication Number
WO 2009/037438 A8(51) International Patent Classification:
C12Q 1/68 (2006.01)(21) International Application Number:
PCT/GB2008/003142(22) International Filing Date:
17 September 2008 (17.09.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/960,128 17 September 2007 (17.09.2007) US(71) Applicants (for all designated States except US): **ONCOMETHYLOME SCIENCES SA** [BE/BE]; CHU, Tour 5 GIGA, Niveau 3, Avenue de l'Hopital 11, B-4000 Sart-Tilman (BE). **GLAXOSMITHKLINE BIOLOGICALS S.A.** [BE/BE]; Rue de l'Institut, 89, B-1330 Rixensart (BE).(71) Applicant (for AG only): **SPENCER, Matthew. Peter** [GB/GB]; Boulton Wade Tennant, Verulam Gardens, 70 Gray's Inn Road, London WC1X 8BT (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **VLASSEN-BROECK, Ilse** [BE/BE]; OncoMethylome Sciences SA, CHU, Tour 5 GIGA, Niveau 3, Avenue de l'Hopital 11, B-4000 Sart-Tilman (BE). **BIERAU, Katja** [DE/BE]; OncoMethylome Sciences SA, CHU, Tour 5 GIGA, niveau 3, Avenue de l'Hopital 11, B-4000 Sart-Tilman (BE).(74) Agents: **SPENCER, Matthew, Peter** et al.; Boulton Wade Tennant, Verulam Gardens, 70 Gray's Inn Road, London WC1X 8BT (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,

[Continued on next page]

(54) Title: IMPROVED DETECTION OF MAGE-A EXPRESSION

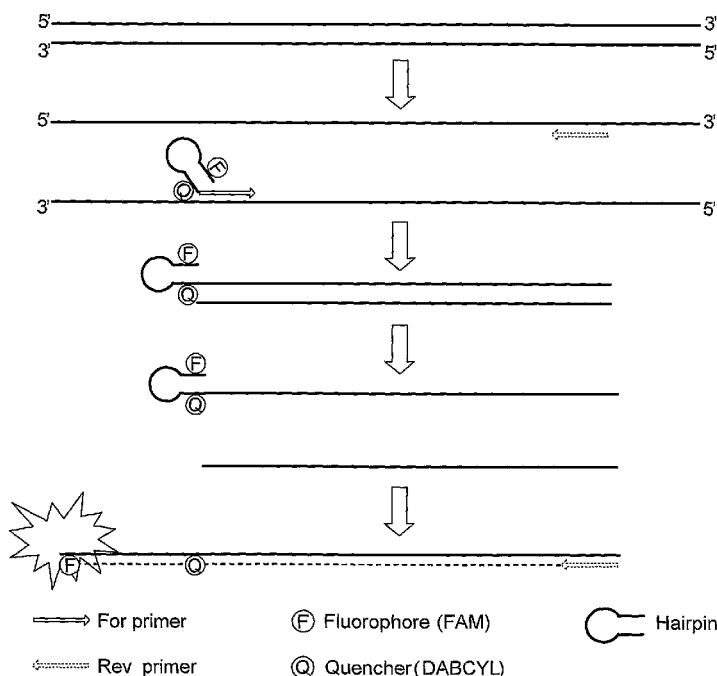


FIG. 4

(57) Abstract: An oligonucleotide, primer or probe comprises the nucleotide sequence of any of SEQ ID NO. 5, 6, 7, 2, 3, 4, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19 or 25. The oligonucleotides are useful for the detection of the methylation status of a gene, in particular the MAGE-A3 gene. The oligonucleotides are useful in primer pairs, kits and methods for determining the methylation status of the MAGE-A3 gene and for diagnosing cancer, directing therapy and selecting subjects for treatment. The primer or probe can comprise a loop or hairpin structure and can be used in real-time methylation specific PCR.



CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, 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, HR, HU, IE, IS, IT, LT, LU, LV,

MC, MT, NL, NO, 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 (Art. 21(3))*
- *with sequence listing part of description (Rule 5.2(a))*

(48) Date of publication of this corrected version:

15 April 2010

(15) Information about Correction:

see Notice of 15 April 2010