



## (51) International Patent Classification:

**G01N 33/50** (2006.01) **C12Q 1/25** (2006.01)  
**A61P 35/00** (2006.01) **G01N 33/68** (2006.01)  
**A61K 45/06** (2006.01)

## (21) International Application Number:

PCT/SG2011/000011

## (22) International Filing Date:

10 January 2011 (10.01.2011)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

201000114-7 8 January 2010 (08.01.2010) SG  
 201001629-3 4 March 2010 (04.03.2010) SG

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(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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

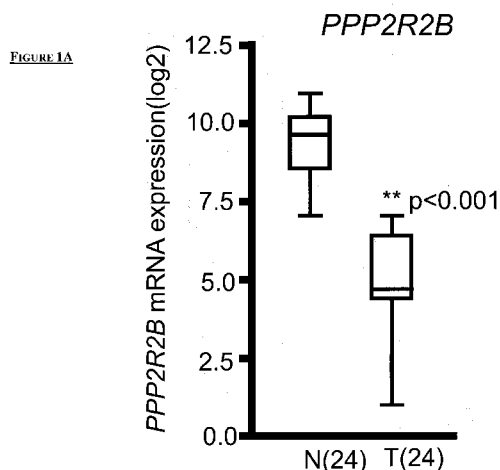
## Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

## Published:

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

(54) **Title**: METHODS AND COMPOSITIONS FOR TREATING CANCER



(57) **Abstract**: We describe a method of determining whether a cancer cell is likely to be resistant to treatment by an mTOR inhibitor. The method may comprise detecting PPP2R2B (GenBank Accession Number: NM\_18167) in or of the cell. It may, alternatively, or in addition, comprise detecting PDK1 (GenBank Accession Number: NM\_002613), in or of the cell. The method may comprise detecting methylation of the PPP2R2B promoter in or of the cell. It may comprise detecting the expression and/or activity of PPP2R2B in or of the cell. It may comprise detecting PDK1 mediated Myc phosphorylation activity. Methods of choosing a treatment for an individual suffering from or suspected to be suffering from a cancer, determining whether an individual suffering from or suspected to be suffering from a cancer will respond to treatment by an mTOR inhibitor, increasing the sensitivity of a cancer cell to treatment by an mTOR inhibitor, for treating or preventing cancer in an individual suffering or suspected to be suffering from cancer are also provided. We further provide for a combination of an inhibitor of PDK1 expression and/or activity and an mTOR inhibitor for use in a method of treatment or prevention of cancer.