

AN INHIBITOR OF ATR KINASE FOR USE IN A METHOD OF TREATING A HYPER-
PROLIFERATIVE DISEASE

Abstract

5 The present invention covers 2-[(3R)-3-methylmorpholin-4-yl]-4-(1-methyl-1H-pyrazol-5-yl)-8-(1H-pyrazol-5-yl)-1,7-naphthyridine (in the following called "Compound A"), an inhibitor of ATR kinase, for use in a method of treating a hyper-proliferative disease in a subject. Preferably the hyper-proliferative disease or the subject is characterized by one or more biomarker(s) selected from

- 10 a) one or more functional mutation(s) in one or more gene(s)/protein(s) selected from APC, ATG5, ARID1A, ATM, ATR, ATRIP, ATRX, BAP1, BARD1, BLM, BRAF, BRCA1, BRCA2, BRIP1, CCND1, CCNE1, CCNE2, CDC7, CDK12, CHEK1, CHEK2, DCLRE1A, DCLRE1B, DCLRE1C, DYRK1A, EGFR, ERBB2, ERBB3, ERCC2, ERCC3, ERCC4, ERCC5, FAM175A, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, FANCM, FBXO18, FBXW7, FEN1, GEN1, HDAC2, H2AFX, HRAS, KRAS, LIG4, MDC1, MLH1, 15 MLH3, MRE11A, MSH2, MSH3, MSH6, MYC, NBN, NRAS, PALB2, PARP1, PARP2, PARP3, PARP4, PCNA, PIK3CA, PMS2, POLA1, POLB, POLH, POLL, POLN, POLQ, PRKDC, PTEN, RAD9A, RAD17, RAD18, RAD50, RAD51, RAD52, RAD54B, RAD54L, RB1, REV3L, RPA1, RPA2, SLX4, TDP1, TDP2, TMRSS2, TMRSS2-ERG, TOPBP1, TOP2A, TOP2B, TP53, TP53BP1, TRRAP, UBE2N, UIMC1, USP1, WDR48, WRN, XPA, XRCC1, XRCC2, XRCC3, 20 XRCC4 and/or XRCC6 gene/protein; and/or
- b) the activation of the ALT pathway; and/or
- c) microsatellite instability.

The present invention also covers a kit comprising Compound A together with means to detect one or more of the aforementioned biomarker(s) and a method for identifying a subject having a hyper-proliferative disease disposed to respond favorably to Compound A, wherein the method comprises 25 the detection of one or more of the aforementioned biomarker(s). Further, the invention covers a method of determining whether a subject having a hyper-proliferative disease will respond to the treatment with Compound A, wherein the method comprises the detection of one or more of the aforementioned biomarker(s) in a sample of the subject.

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