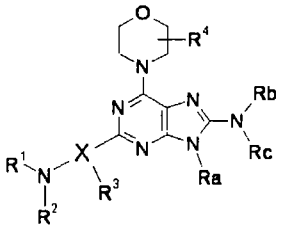
**ABSTRACT**

There is provided a novel compound that inhibits phosphatidylinositol 3-kinase (PI3K) and/or the mammalian target of rapamycin (mTOR) and exhibits anti-tumor activity. The present invention provides a compound represented by the following formula (1) having various substituents that inhibits PI3K and/or mTOR and exhibits anti-tumor activity:



(1)

wherein $R^1$, $R^2$, $R^3$, $R^4$, $R^a$, $R^b$, $R^c$, and X each have the same meanings as defined in the specification.

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