ABSTRACT

N- (1- (1-BENZYL -4-PHENYL-1H-IMIDAZOL-2-YL) -2,2-DYMETHYLPROPYL) BENZAMIDE DERIVATIVES AND RELATED COMPOUNDS AS KINESIN SPINDLE PROTEIN (KSP) INHIBITORS FOR THE TREATMENT OF CANCER

This invention is directed to substituted imidazole compounds which modulate the activity of KSP and are useful for the treatment of cancer and are represented by the formula (I) wherein: R^1 is selected from the group consisting of aminoacyl, acylamino, carboxyl, carboxyl ester, aryl, and alkyl optionally substituted with hydroxy or halo; R^2 is selected from the group consisting of hydrogen, alkyl, and aryl; R^3 is selected from the group consisting of hydrogen and -X-A, wherein X is selected from the group consisting of-C(O)-, -C(S)-, -S(O)-, -$S(O)_2$-, and -S(O)2-N(R)-, where R is hydrogen or alkyl; and A is selected from the group consisting of hydrogen, optionally substituted alkyl, optionally substituted alkoxy, optionally substituted aryl, carboxyl, carboxyl ester, aminoacyl, optionally substituted heteroaryl, optionally substituted heterocyclic, and optionally substituted cycloalkyl, wherein the optionally substituted groups are substituted with 1 to 4 substituents; R^5 is selected from the group consisting of L-A^1, wherein L is selected from the group consisting of-$S(O)_q$- where q is one or two, and C_1 to C_5 alkylene optionally substituted with hydroxy, halo, or acylamino; and A^1 is selected from the group consisting of aryl, substituted aryl, heteroaryl, substituted heteroaryl, heterocyclic, substituted heterocyclic, cycloalkyl, and substituted cycloalkyl; and one of either R^6 or R^7 is selected from the group consisting of heterocyclic, aryl and heteroaryl, all of which may be optionally substituted with -$(R^8)_m$ where R^8 is as defined herein and m is an integer from 1 to 3, and the other Of R^6 or R^7 is selected from the group consisting of hydrogen, halo, and alkyl; or R^6 and R^7 are both hydrogen; the other substituents are defined in the claims.



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