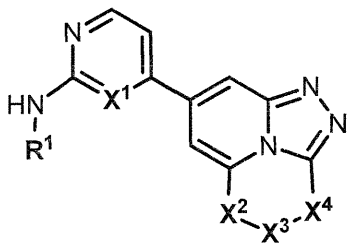
many human tumors. In addition, mutations of BRAF, a serine-threonine kinase of the Raf family, are associated with increased kinase activity. Mutations in BRAF have been identified in melanomas (60%), thyroid cancers (greater than 40%) and colorectal cancers. These observations indicate that the ERK1/2 signaling pathway is an attractive pathway for anticancer therapies in a broad spectrum of human tumors. (M. Hohno and J. Pouyssegur, *Prog. in Cell Cycle Res.* **2003** 5:219)

[0007] Therefore, small-molecular inhibitors of ERK activity (*i.e.*, ERK1 and/or ERK2 activity) would be useful for treating a broad spectrum of cancers, such as, for example, melanoma, pancreatic cancer, thyroid cancer, colorectal cancer, lung cancer, breast cancer, and ovarian cancer. Such a contribution is provided by this invention.

[0008] SUMMARY ~~OF THE INVENTION~~

[0009] In one aspect of the present invention there is provided a compound according to formula **I**, wherein:



(**I**)

[0010] $\mathbf{X^1}$ is N or CH;

[0011] $\mathbf{X^2}$ is $N\mathbf{R^a}$, O or S;

[0012] $\mathbf{X^3}$ is $(C\mathbf{R^4}_2)_{1\text{-}3}$, $CH_2N\mathbf{R^b}$, C(=O), $C(=O)N\mathbf{R^b}$ or C(=O)O with the proviso that:

[0013] when $\mathbf{X^3}$ is $CH_2N\mathbf{R^b}$, the tricyclic moiety of (**I**) is a 6,7,8,9-tetrahydro-1,2,2a^1,6,8-pentaazabenzo[cd]azulene,

[0014] when $\mathbf{X^3}$ is $C(=O)N\mathbf{R^b}$, the tricyclic moiety of (**I**) is a 8,9-dihydro-1,2,2a^1,6,8-pentaazabenzo[cd]azulen-7(6H)-one,

[0015] when $\mathbf{X^3}$ is $CH_2C(=O)$, the tricyclic moiety of (**I**) is a 8,9-dihydro-1,2,2a^1,6-tetraazabenzo[cd]azulen-7(6H)-one, and ,

optionally independently substituted with one or more groups independently selected from halogen, oxo, hydroxyl or C_{1-6} alkoxy; and,

[0031] (l) phenylthio or phenylthio-C_{1-6} alkyl;

[0032] $\mathbf{R^3}$and $\mathbf{R^4}$ is independently in each occurrence hydrogen or C_{1-3} alkyl;

[0033] $\mathbf{R^a}$ and $\mathbf{R^b}$ are independently hydrogen or C_{1-3} alkyl; or,

[0034] a pharmaceutically salt thereof;

[0035] wherein any phenyl moiety is optionally substituted one or more halogen, cyano, hydroxyl, C_{1-6} alkoxy, C_{1-6} haloalkoxy or C_{1-6} alkyl wherein said C_{1-6} alkyl is optionally independently substituted with one or more groups independently selected from halogen, oxo, hydroxyl or C_{1-6} alkoxy; and,

[0036] wherein each cycloalkyl is independently optionally substituted with one to three groups halogen, C_{1-6} haloalkyl,C_{1-6} alkoxy or C_{1-6} haloalkoxy.

[0037] The disclosure ~~present~~ invention also relates to a method for treating a hyperproliferative disorder by administering a therapeutically effective quantity of a compound according to formula **I** to a patient in need thereof. The compound of formula **I** can be administered alone or co-administered with at least one other anti-hyperproliferative or chemotherapeutic compound. In one aspect, the present invention refers to a compound as disclosed herein for use in the treatment of cancer or a hyperproliferative disease. In another aspect, the present invention refers to a compound as disclosed herein for use as a medicament. In yet another aspect, the present invention refers to a compound as disclosed herein for use in therapy.

[0038] The present ~~invention~~ disclosure also relates to a method for inhibiting ERK protein kinase activity in a cell comprising treating a cell with a compound according to formula **I** in an amount effective to attenuate or eliminate ERK kinase activity. In one aspect, the present invention refers to use of a compound as disclosed herein in the manufacture of a medicament for inhibiting ERK protein kinase activity in a cell. In another aspect, the present invention refers to use of a compound as disclosed herein in the manufacture of a medicament for inhibiting ERK protein kinase activity in a patient in need thereof. In yet another aspect, the present invention refers to use of a compound as disclosed herein in the manufacture of a medicament for treating or ameliorating the severity of cancer or a hyperproliferative disorder in a patient in need thereof. In a further aspect, the present invention refers to use of a compound as disclosed herein in the manufacture of a medicament for the treatment of a hyperproliferative disease.

[0039] The present disclosure ~~invention~~ also relates to a pharmaceutical composition comprising a compound according to formula **I** and at least one pharmaceutically acceptable carrier, diluent or excipient. In one aspect, the present invention refers to a pharmaceutical composition comprising a compound as disclosed herein and at least one pharmaceutically acceptable carrier, excipient or diluent. In another aspect, the present invention refers to a pharmaceutical composition comprising a compound as disclosed herein for use in the treatment of a hyperproliferative disease.

[0040] The present invention also relates to the use of a compound of formula **I** or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of cancer or a hyperproliferative disease.

19. The compound according to claim 17 wherein $\mathbf{R^2}$ is optionally substituted heteroaryl-methyl.

20. The compound according to claim 17 wherein $\mathbf{R^2}$ is optionally substituted phenoxy or heteraryloxy.

21. The compound according to any of claims 18 to 20 wherein $\mathbf{R^1}$ is 1-methyl-1H-pyrazol-5-yl).

22. The compound according to claim 21 wherein $\mathbf{R^2}$ is optionally substituted benzyl.

23. The compound according to claim 21 wherein $\mathbf{R^2}$ is benzyl.

24. The compound according to claim 21 wherein $\mathbf{R^2}$ is optionally substituted (1H-pyrazol-1-yl)methyl.

25. The compound according to claim 24 wherein $\mathbf{R^2}$ is (4-chloro-1H-pyrazol-1-yl)methyl.

26. The compound according to claim 24 wherein $\mathbf{R^2}$ is (4-trifluoromethyl-1H-pyrazol-1-yl)methyl.

27. The compound according to claim 24 wherein $\mathbf{R^2}$ is (4-cyclopropyl-1H-pyrazol-1-yl)methyl.

28. The compound according to claim 21 wherein R^2 is optionally substituted phenoxy.

29. The compound according to any of claims 1 to 28 selected from the list consisting of compounds I-1 to I-109 in TABLE 1.

30. A compound according to any one of claims 1 to 29 ~~used~~ for use in the treatment of cancer or a hyperproliferative disease.

31. A compound of any one of claims 1 to 29 for use as a medicament.

32. A compound of any one of claims 1 to 29 for use in therapy.

33. A pharmaceutical composition comprising a compound according to any one of claims 1 to 29 and at least one pharmaceutically acceptable carrier, excipient or diluent.

34. Use of a compound according to any one of claims 1 to 29 in the manufacture of a medicament for ~~A method of~~ inhibiting ERK protein kinase activity in a cell ~~comprising treating the cell with a compound according to any one of claims 1 to 29~~.

35. Use of a compound according to any one of claims 1 to 29 in the manufacture of a medicament for ~~A method of~~ inhibiting ERK protein kinase activity in a patient in need thereof ~~comprising the step of administering to said patient a compound according to any one of claims 1 to 29~~.

36. Use of a compound according to any one of claims 1 to 29 in the manufacture of a medicament for~~A method of~~ treating or ameliorating the severity of cancer or a hyperproliferative disorder in a patient in need thereof ~~comprising administering to said patient a compound according to any one of claims 1 to 29~~.

37. The ~~method~~ use according to claim 36 wherein said hyperproliferative disorder is selected from the group consisting of adenoma, bladder cancer, brain cancer, breast cancer, colon cancer, epidermal carcinoma, follicular carcinoma, cancer of the genitourinary tract, glioblastoma, Hodgkin's disease, head and neck cancers, hepatoma, keratoacanthoma, kidney cancer, large cell carcinoma, leukemias, lung adenocarcinoma, lung cancer, lymphoid disorders, melanoma and non-melanoma skin cancer, myelodysplastic syndrome, neuroblastoma, non-Hodgkins lymphoma, ovarian cancer, papillary carcinoma, pancreatic cancer, prostate cancer, rectal cancer, sarcoma, small cell carcinoma, testicular cancer, tetracarcinomas, thyroid cancer, and undifferentiated carcinoma.

38. The ~~method~~ use according to claim 36 wherein said hyperproliferative disorder is selected from the group consisting of melanoma, pancreatic cancer, thyroid cancer, colorectal cancer, lung cancer, breast cancer and ovarian cancer.

39. The ~~method~~ use according to claim 36 wherein said hyperproliferative disorder is selected from the group consisting of acute myelogenous leukemia, chronic myelomonocytic leukemia, chronic myelogenous leukemia, multiple myeloma and myeloid leukemia.

40. The ~~method~~ use according to claim 36 wherein a compound of any of claims 1 to 29 is co-administered with at least one other chemotherapeutic agent used to treat or ameliorate a hyperproliferative disorder.