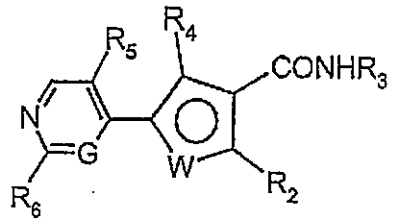
Claims

1. A compound of the formula (I):



(I)

wherein

G is CH or nitrogen atom;

W is an oxygen atom, NR_1 or $S(O)_n$; n is 0, 1 or 2;

R_1 and R_3 independently represent hydrogen atom or an optionally substituted group selected from alkyl, cycloalkyl, alkenyl, alkynyl, heterocyclyl, heterocyclylalkyl, aryl, arylalkyl, heterocyclyloxy-alkyl and alkoxycarbonyl group,

wherein cycloalkyl is a cyclic alkyl group of from 3 to 10 carbon atoms having single or multiple cyclic rings and

aryl is a monovalent aromatic carbocyclic group of from 6 to 14 carbon atoms having a single ring or multiple condensed rings which condensed rings may or may not be aromatic provided that the point of attachment is at an aromatic carbon atom;

R_2 is hydrogen or halogen atom, or an optionally substituted group selected from aryl, cycloalkyl and heterocyclyl group,

wherein cycloalkyl and aryl are as defined above and heterocyclyl

is a saturated group having a single ring or multiple condensed rings, from 1 to 10 carbon atoms and from 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur and oxygen within the ring wherein, in fused ring systems, one or more of the rings can be cycloalkyl, aryl or heteroaryl provided that the point of attachment is through the heterocyclic ring or

is an unsatutered group having a single ring or multiple condensed rings, from 1 to 10 carbon atoms and from 1 to 4 hetero atoms selected from the group consisting of sulfur and oxygen within the ring wherein, in fused ring systems, one or more of the rings can

be cycloalkyl, aryl or heteroaryl provided that the point of attachment is through the heterocyclic ring ;

R_4 is hydrogen or halogen atom, or an optionally substituted alkyl or alkenyl group;

R_5 is hydrogen or halogen atom;

R_6 is hydrogen atom or NHR_7;

R_7 is hydrogen atom, an optionally substituted group selected from alkyl, aryl, cycloalkyl and heterocyclyl group or -CO-R_1 wherein R_1 is as defined above, wherein cycloalkyl and aryl are as defined above; and

wherein any substituted alkyl refers to an alkyl group having from 1 to 3 substituents selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogens, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl;

any substituted cycloalkyl refers to a cycloalkyl, having from 1 to 5 substituents selected from the group consisting of oxo (=O), thioxo (=S), alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl;

any substituted alkenyl refers to alkenyl groups having from 1 to 3 substituents, and preferably 1 to 2 substituents, selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl with the proviso that any hydroxyl substitution is not attached to a vinyl (unsaturated) carbon atom;

any substituted alkynyl refers to alkynyl groups having from 1 to 3 substituents, and preferably 1 to 2 substituents, selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl with the proviso that any hydroxyl substitution is not attached to an acetylene (unsaturated) carbon atom;

any substituted heterocyclyl refers to heterocyclyl groups that are substituted with from 1 to 3 of the same substituents as defined for substituted cycloalkyl;

any substituted aryl refers to aryl groups which are substituted with from 1 to 3 substituents, selected from the group consisting of hydroxy, acyl, acylamino, acyloxy, alkyl, substituted alkyl, alkoxy, substituted alkoxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, carboxyl, carboxyl esters, cyano, cycloalkyl, substituted cycloalkyl, halo, nitro, heterocyclyl, substituted heterocyclyl, heterocyclyloxy, substituted heterocyclyloxy, amino sulfonyl (NH_2-SO_2-), and substituted aminosulfonyl; and

any substituted alkoxy refers to the group substituted alkyl-O-";

or a pharmaceutically acceptable salt thereof, with the proviso that the following compounds are excluded:

2, 5-di(pyridin-4-yl)-thiophene-3-carboxylic acid amide,

2, 5-di(pyridin-4-yl)-thiophene-3-carboxylic acid methylamide,

5-pyridin-4-yl-furan-3-carboxylic acid [4-methoxy-3-(4-methyl-piperazin-1-yl)-phenyl]-amide,

5-pyridin-4-yl-furan-3-carboxylic acid (1-methyl-1,2,3,4-tetrahydro-quinolin-7-yl)-amide and

N-[2-amino-1-(2,4-dichlorobenzyl)ethyl]-5-[2-(methylamino)pyrimidin-4-yl] thiophene-3-carboxamide.

2. A compound of formula (I) as defined in claim 1 characterized in that W is NR_1, R_1 and R_3 independently represent hydrogen atom or an optionally substituted alkyl group, and R_6 is NHR_7 wherein R_7 is hydrogen atom or an optionally substituted aryl group.

3. A compound of formula (I) as defined in claim 1 or 2, characterized in that W is NR_1; R_1 represent hydrogen atom or an optionally substituted alkyl group; R_3 and R_4 represent hydrogen atoms, R_2 is an optionally substituted aryl or heterocyclyl group, wherein the heterocyclyl is as defined in Claim 1 for R_2; and R_6 is NH_2.

4. A compound of formula (I) as defined in any of the preceding claims, wherein W is NH or R_3 represents hydrogen atom.

5. A compound of formula (I) as defined in any of the preceding claims, or a pharmaceutically acceptable salt thereof, which is selected from the group consisting of:

2-phenyl-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,

2-(2-fluoro-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
2-(3-fluoro-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
2-(4-fluoro-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
5-pyridin-4-yl-2-o-tolyl-1H-pyrrole-3-carboxylic acid amide,
5-pyridin-4-yl-2-m-tolyl-1H-pyrrole-3-carboxylic acid amide,
5-pyridin-4-yl-2-p-tolyl-1H-pyrrole-3-carboxylic acid amide,
2-(3-methoxy-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
2-(4-methoxy-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
2-(2-nitro-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
2-(3-nitro-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
2-(2,3-dimethyl-phenyl)-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
5-pyridin-4-yl-2-thiophen-3-yl-1H-pyrrole-3-carboxylic acid amide,
2-furan-3-yl-5-pyridin-4-yl-1H-pyrrole-3-carboxylic acid amide,
5-(3-fluoro-pyridin-4-yl)-2-phenyl-1H-pyrrole-3-carboxylic acid amide,
5-(3-fluoro-pyridin-4-yl)-2-o-tolyl-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-phenyl-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-o-tolyl-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-(2-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(4-fluoro-2-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-(5-fluoro-2-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-(2,3-dimethyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-(2,3-difluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-(2,4-difluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,
5-(2-amino-pyrimidin-4-yl)-2-(2,5-difluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(2-chloro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-chloro-4-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2,4-dichloro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-fluoro-4-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-fluoro-3-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-chloro-5-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(3-chloro-2-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2,3-dichloro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-fluoro-3-methoxy-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(4-chloro-2-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-bromo-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-chloro-3-methoxy-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(3-methoxy-2-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-chloro-3-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(3-bromo-2-chloro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2-bromo-3-chloro-phenyl)-1H-pyrrole-3-carboxylic acid amide ,

5-(2-amino-pyrimidin-4-yl)-2-(2,3-dibromo-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(3-bromo-2-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(3-bromo-2-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(2-bromo-3-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(4-methoxy-3-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(3,4-dimethoxy-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(2-fluoro-4-methoxy-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(2-chloro-4-methoxy-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(2-bromo-4-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(4-methoxy-2-methyl-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-thiophen-3-yl-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-thiophen-2-yl-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(5-methyl-thiophen-2-yl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-(5-chloro-thiophen-2-yl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-5-chloro-pyrimidin-4-yl)-2-phenyl-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-5-bromo-pyrimidin-4-yl)-2-phenyl-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-4-iodo-2-phenyl-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-5-chloro-pyrimidin-4-yl)-2-(2-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-5-bromo-pyrimidin-4-yl)-2-(2-fluoro-phenyl)-1H-pyrrole-3-carboxylic acid amide,

5-(2-amino-pyrimidin-4-yl)-2-phenyl-thiophene-3-carboxylic acid amide,

5-(2-amino-5-fluoro-pyrimidin-4-yl)-2-phenyl-1H-pyrrole-3-carboxylic acid amide and

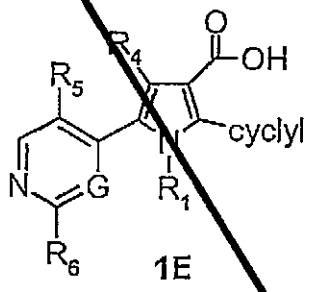
5-(2-amino-pyrimidin-4-yl)-4-chloro-2-phenyl-1H-pyrrole-3-carboxylic acid amide.

6. A compound of formula (I) as defined in any of the preceding claims, or a pharmaceutically acceptable salt thereof, which is

5-(2-amino-pyrimidin-4-yl)-2-(2,4-dichloro-phenyl)-1H-pyrrole-3-carboxylic acid amide.

7. A process for preparing a compound of formula (I) as defined in claim 1, which process comprises:

a) coupling a compound of formula 1E



1E

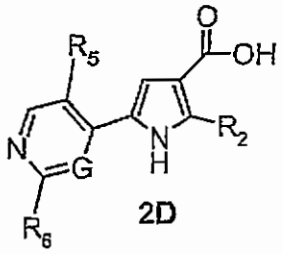
wherein R_1, R_4, R_5, R_6 and G are as defined in claim 1 and cyclyl is an optionally substituted group selected form aryl, cycloalkyl and heterocyclyl group, wherein cycloalkyl and aryl are as defined in claim 1 and heterocyclyl is as defined in claim 1 for R_2,

either with an activated form of ammonia, optionally in the presence of a condensing agent, or with an amine of formula R_3-NH_2, wherein R_3 is as defined in claim 1, thus obtaining a compound of formula (I) as defined in claim 1 wherein W is NR_1, wherein R_1 is as defined in claim 1, and R_2 is an optionally substituted group selected form aryl, cycloalkyl and heterocyclyl group, wherein cycloalkyl and aryl are as defined in claim 1 and heterocyclyl is as defined in claim 1 for R_2;

b) optionally converting a compound of formula (I) into another different compound of formula (I), and, if desired, converting a compound of formula (I) into a pharmaceutically acceptable salt thereof or converting a salt into the free compound (I), wherein any substituted cycloalkyl, any substituted heterocyclyl and any substituted aryl are as defined in claim 1.

8. A process for preparing a compound of formula (I) as defined in claim 1, which process comprises:

a') coupling a compound of formula **2D**



2D

wherein R_2 is hydrogen or halogen atom, and R_5, R_6, and G are as defined in claim 1, either with an activated form of ammonia, optionally in the presence of a condensing agent, or with an amine of formula R_3-NH_2, wherein R_3 is as defined in claim 1, thus obtaining a compound of formula (I) wherein W is N, $\mathbf{R_1}$ is hydrogen atom and $\mathbf{R_2}$ is hydrogen atom or halogen atom;

a'$_1$) optionally converting the resultant compound of formula (I) wherein $\mathbf{R_2}$ is halogen atom into another compound of formula (I) wherein $\mathbf{R_2}$ is hydrogen atom or an optionally substituted group selected form aryl, cycloalkyl and heterocyclyl group wherein cycloalkyl and aryl are as defined in claim 1 and heterocyclyl is as defined in claim 1 for R_2, and/or

a'$_2$) converting the resultant compound of formula (I) wherein $\mathbf{R_1}$ is hydrogen atom into another compound of formula (I) wherein $\mathbf{R_1}$ is an optionally substituted group selected from alkyl, cycloalkyl, alkenyl, alkynyl, heterocyclyl, aryl, heterocyclyloxy-alkyl and alkoxycarbonyl, wherein cycloalkyl and aryl are as defined in claim 1;

and, if desired, converting a compound of formula (I) into a pharmaceutically acceptable salt thereof or converting a salt into the free compound (I),

wherein any substituted alkyl, any substituted cycloalkyl, any substituted alkenyl, any substituted alkynyl, any substituted heterocyclyl, any substituted aryl, and any substituted alkoxy are as defined in claim 1.

9. A compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, for use as a medicament.

10. A compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, for use as a medicament for treating cell proliferative disorders caused by and/or associated with an altered protein kinase activity such as Cdc7 kinase activity.

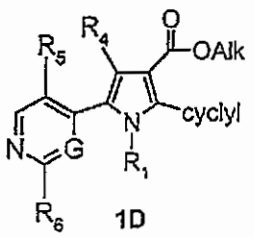
11. A compound of formula (I) or a pharmaceutically acceptable salt thereof, according to claim 9, characterized in that it is for use as a medicament for treating cell proliferative disorder that is a cancer selected from carcinoma, hematopoietic tumors of lymphoid lineage, hematopoietic tumors of myeloid lineage; tumors of mesenchymal origin; tumors of the central and peripheral nervous system; melanoma, seminoma, teratocarcinoma, osteosarcoma, xeroderma pigmentosum, keratoxanthoma, thyroid follicular cancer and Kaposi's sarcoma.

12. A compound of formula (I) or a pharmaceutically acceptable salt thereof, according to claim 9, characterized in that it is for use as a medicament for treating a cell proliferative disorder that is is selected from benign prostate hyperplasia, familial adenomatosis, polyposis, neuro-fibromatosis, psoriasis, vascular smooth cell proliferation associated with atherosclerosis, pulmonary fibrosis, arthritis glomerulonephritis and post-surgical stenosis and restenosis.

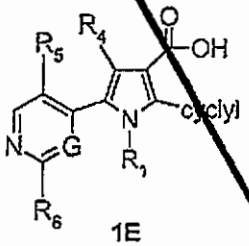
13. A compound of formula (I) or a pharmaceutically acceptable salt thereof, according to claim 9, characterized in that it is for use as a medicament together a radiation therapy or in a chemotherapy regimen in combination with at least one cytostatic or cytotoxic agent.

14. A pharmaceutical composition comprising a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, and at least one pharmaceutically acceptable excipient, carrier and/or diluent.

15. An intermediate of the formula 1D or 1E:



1D



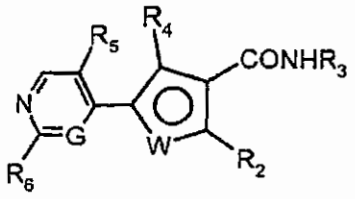
1E

wherein G, R_1, R_5 and R_6 are as defined in claim 1; R_4 is hydrogen, halogen atom or an alkenyl group optionally substituted with from 1 to 3 substituents, and preferably 1 to 2 substituents,

selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl with the proviso that any hydroxyl substitution is not attached to a vinyl (unsaturated) carbon atom; cyclyl is as defined in claim 7 and Alk is a C_1-C_5 alkyl goup.

Claims

1. A compound of the formula (I) :



(I)

wherein
G is CH or nitrogen atom;
W is an oxygen atom, NR_1 or S $(O)_n$; **n** is 0, 1 or 2;
R_1 and R_3 independently represent hydrogen atom or an optionally substituted group selected from alkyl, cycloalkyl, alkenyl, alkynyl, heterocyclyl, heterocyclylalkyl, aryl, arylalkyl, heterocyclyloxy- alkyl and alkoxycarbonyl group, wherein cycloalkyl is a cyclic alkyl group of from 3 to 10 carbon atoms having single or multiple cyclic rings and aryl is a monovalent aromatic carbocyclic group of from 6 to 14 carbon atoms having a single ring or multiple condensed rings which condensed rings may or may not be aromatic provided that the point of attachment is at an aromatic carbon atom;
R_2 is hydrogen or halogen atom, or an optionally substituted group selected from aryl, cycloalkyl and heterocyclyl group,
wherein cycloalkyl and aryl are as defined above and heterocyclyl is a saturated group having a single ring or multiple condensed rings, from 1 to 10 carbon atoms and from 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur and oxygen within the ring wherein, in fused ring systems, one or more of the rings can be cycloalkyl, aryl or heteroaryl provided that the point of attachment is through the heterocyclic ring or
is an unsatutered group having a single ring or multiple condensed rings, from 1 to 10 carbon atoms and from I to 4 hetero atoms selected from the group consisting of sulfur and oxygen within the ring wherein, in fused ring systems, one or more of the rings can be cycloalkyl, aryl or heteroaryl provided that the point of attachment is through the heterocyclic ring ;
R_4 is hydrogen or halogen atom, or an optionally substituted alkyl or alkynyl group;
R_5 is hydrogen or halogen atom;
R_6 is hydrogen atom or NHR_7;
R_7 is hydrogen atom, an optionally substituted group selected from alkyl, aryl, cycloalkyl and heterocyclyl group or- CO- R_1 wherein R_1 is as defined above, wherein cycloalkyl and aryl are as defined above; and
wherein any substituted alkyl refers to an alkyl group having from 1 to 3 substituents selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogens, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl;
any substituted cycloalkyl refers to a cycloalkyl, having from 1 to 5 substituents selected from the group consisting of oxo (=O), thioxo (=S), alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl;
any substituted alkenyl refers to alkenyl groups having from 1 to 3 substituents, and preferably 1 to 2 substituents, selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl with the proviso that any hydroxyl substitution is not attached to a vinyl (unsaturated) carbon atom;
any substituted alkynyl refers to alkynyl groups having from 1 to 3 substituents, and preferably 1 to 2 substituents, selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl with the proviso that any hydroxyl substitution is not attached to an acetylene (unsaturated) carbon atom;
any substituted heterocyclyl refers to heterocyclyl groups that are substituted with from 1 to 3 of the same substituents as defined for substituted cycloalkyl;

any substituted aryl refers to aryl groups which are substituted with from 1 to 3 substituents, selected from the group consisting of hydroxy, acyl, acylamino, acyloxy, alkyl, substituted alkyl, alkoxy, substituted alkoxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, carboxyl, carboxyl esters, cyano, cycloalkyl, substituted cycloalkyl, halo, nitro, heterocyclyl, substituted heterocyclyl, heterocyclyloxy, substituted heterocyclyloxy, amino sulfonyl (NH_2- SO_2-), and substituted aminosulfonyl; and
any substituted alkoxy refers to the group substituted alkyl- O- ";
or a pharmaceutically acceptable salt thereof, with the proviso that the following compounds are excluded:
2, 5- di (pyridin- 4- yl)- thiophene- 3- carboxylic acid amide,
2, 5- di (pyridin- 4- yl)- thiophene- 3- carboxylic acid methylamide,
5- pyridin- 4- yl- furan- 3- carboxylic acid [4- methoxy- 3- (4- methyl- piperazin- 1- yl)- phenyl]- amide,
5- pyridin- 4- yl- furan- 3- carboxylic acid (1- methyl- 1, 2, 3, 4- tetrahydro- quinolin- 7- yl)- amide and N- [2- amino- 1- (2, 4- dichlorobenzyl) ethyl]- 5- [2- (methylamino) pyrimidin- 4- yl]
thiophene- 3- carboxamide.

2. A compound of formula (I) as defined in claim 1 **characterized in that W** is NR_1, R_1 and R_3 independently represent hydrogen atom or an optionally substituted alkyl group, and R_6 is NHR_7 wherein R_7 is hydrogen atom or an optionally substituted aryl group.

3. A compound of formula (I) as defined in claim 1 or 2, **characterized in that W** is NR_1; R_1 represent hydrogen atom or an optionally substituted alkyl group; R_3 and R_4 represent hydrogen atoms, R_2 is an optionally substituted aryl or heterocyclyl group, wherein the heterocyclyl is as defined in Claim 1 for R_2; and R_6 is NH_2.

4. A compound of formula (I) as defined in any of the preceding claims, wherein **W** is **NH** or R_3 represents hydrogen atom.

5. A compound of formula (I) as defined in any of the preceding claims, or a pharmaceutically acceptable salt thereof, which is selected from the group consisting of:

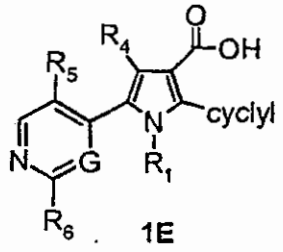
2- phenyl- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (2- fluoro- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (3- fluoro- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (4- fluoro- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
5- pyridin- 4- yl- 2- o- tolyl- 1H- pyrrole- 3- carboxylic acid amide,
5- pyridin- 4- yl- 2- m- tolyl- 1H- pyrrole- 3- carboxylic acid amide,
5- pyridin- 4- yl- 2- p- tolyl- 1H- pyrrole- 3- carboxylic acid amide,
2- (3- methoxy- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (4- methoxy- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (2- nitro- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (3- nitro- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- (2, 3- dimethyl- phenyl)- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
5- pyridin- 4- yl- 2- thiophen- 3- yl- 1H- pyrrole- 3- carboxylic acid amide,
2- furan- 3- yl- 5- pyridin- 4- yl- 1H- pyrrole- 3- carboxylic acid amide,
5- (3- fluoro- pyridin- 4- yl)- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (3- fluoro- pyridin- 4- yl)- 2- o- tolyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- o- tolyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (4- fluoro- 2- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (5- fluoro- 2- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 3- dimethyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 3- difluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 4- difluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 5- difluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin4- yl)- 2- (2- chloro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- chloro- 4- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 4- dichloro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- fluoro- 4- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- fluoro- 3- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- chloro- 5- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (3- chloro- 2- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 3- dichloro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,

5- (2- amino- pyrimidin- 4- yl)- 2- (2- fluoro- 3- methoxy- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (4- chloro- 2- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- bromo- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- chloro- 3- methoxy- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (3- methoxy- 2- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- chloro- 3- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (3- bromo- 2- chloro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- bromo- 3- chloro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2, 3- dibromo- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (3- bromo- 2- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (3- bromo- 2- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- bromo- 3- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (4- methoxy- 3- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (3, 4- dimethoxy- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- fluoro- 4- methoxy- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- chloro- 4- methoxy- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (2- bromo- 4- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (4- methoxy- 2- methyl- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- thiophen- 3- yl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- thiophen- 2- yl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (5- methyl- thiophen- 2- yl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- (5- chloro- thiophen- 2- yl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- 5- chloro- pyrimidin- 4- yl)- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- 5- bromo- pyrimidin- 4- yl)- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 4- iodo- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- 5- chloro- pyrimidin- 4- yl)- 2- (2- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- 5- bromo- pyrimidin- 4- yl)- 2- (2- fluoro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide,
5- (2- amino- pyrimidin- 4- yl)- 2- phenyl- thiophene- 3- carboxylic acid amide,
5- (2- amino- 5- fluoro- pyrimidin- 4- yl)- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide and
5- (2- amino- pyrimidin- 4- yl)- 4- chloro- 2- phenyl- 1H- pyrrole- 3- carboxylic acid amide.

6. A compound of formula (I) as defined in any of the preceding claims, or a pharmaceutically acceptable salt thereof, which is 5- (2- amino- pyrimidin- 4- yl)- 2- (2, 4- dichloro- phenyl)- 1H- pyrrole- 3- carboxylic acid amide.

7. A process for preparing a compound of formula (I) as defined in claim 1, which process comprises:

a) coupling a compound of formula **1E**

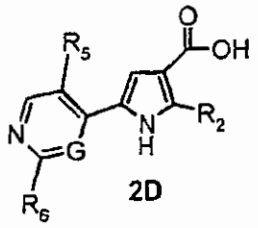


1E

wherein R_1, R_4, R_5, R_6 and G are as defined in claim 1 and cyclyl is an optionally substituted group selected form aryl, cycloalkyl and heterocyclyl group, wherein cycloalkyl and aryl are as defined in claim 1 and heterocyclyl is as defined in claim 1 for R_2,
either with an activated form of ammonia, optionally in the presence of a condensing agent, or with an amine of formula R_3-NH_2, wherein R_3 is as defined in claim 1, thus obtaining a compound of formula (I) as defined in claim 1 wherein W is NR_1, wherein R_1 is as defined in claim 1, and R_2 is an optionally substituted group selected form aryl, cycloalkyl and heterocyclyl group, wherein cycloalkyl and aryl are as defined in claim 1 and heterocyclyl is as defined in claim 1 for R_2;
b) optionally converting a compound of formula (I) into another different compound of formula (I), and, if desired, converting a compound of formula (I) into a pharmaceutically acceptable salt thereof or converting a salt into the free compound (I), wherein any substituted cycloalkyl, any substituted heterocyclyl and any substituted aryl are as defined in claim 1.

8. A process for preparing a compound of formula (I) as defined in claim 1, which process comprises:

a') coupling a compound of formula **2D**



2D

wherein R_2 is hydrogen or halogen atom, and R_5, R_6, and G are as defined in claim 1, either with an activated form of ammonia, optionally in the presence of a condensing agent, or with an amine of formula R_3-NH_2, wherein R_3 is as defined in claim 1, thus obtaining a compound of formula (I) wherein W is N, R_1 is hydrogen atom and R_2 is hydrogen atom or halogen atom;

a'$_1$) optionally converting the resultant compound of formula (I) wherein R_2 is halogen atom into another compound of formula (I) wherein R_2 is hydrogen atom or an optionally substituted group selected form aryl, cycloalkyl and heterocyclyl group wherein cycloalkyl and aryl are as defined in claim 1 and heterocyclyl is as defined in claim 1 for R_2, and/or

a'$_2$) converting the resultant compound of formula (I) wherein R_1 is hydrogen atom into another compound of formula (I) wherein R_1 is an optionally substituted group selected from alkyl, cycloalkyl, alkenyl, alkenyl, heterocyclyl, aryl, heterocyclyloxy- alkyl and alkoxycarbonyl, wherein cycloalkyl and aryl are as defined in claim 1;

and, if desired, converting a compound of formula (I) into a pharmaceutically acceptable salt thereof or converting a salt into the free compound (I),

wherein any substituted alkyl, any substituted cycloalkyl, any substituted alkenyl, any substituted alkynyl, any substituted heterocyclyl, any substituted aryl, and any substituted alkoxy are as defined in claim 1.

9. A compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, for use as a medicament.

10. A compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, for use as a medicament for treating cell proliferative disorders caused by and/or associated with an altered protein kinase activity such as Cdc7 kinase activity.

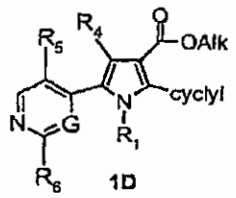
11. A compound of formula (I) or a pharmaceutically acceptable salt thereof, according to claim 9, **characterized in that** it is for use as a medicament for treating cell proliferative disorder that is a cancer selected from carcinoma, hematopoietic tumors of lymphoid lineage, hematopoietic tumors of myeloid lineage; tumors of mesenchymal origin; tumors of the central and peripheral nervous system; melanoma, seminoma, teratocarcinoma, osteosarcoma, xeroderma pigmentosum, keratoxanthoma, thyroid follicular cancer and Kaposi's sarcoma.

12. A compound of formula (I) or a pharmaceutically acceptable salt thereof, according to claim 9, **characterized in that** it is for use as a medicament for treating a cell proliferative disorder that is is selected from benign prostate hyperplasia, familial adenomatosis, polyposis, neuro-fibromatosis, psoriasis, vascular smooth cell proliferation associated with atherosclerosis, pulmonary fibrosis, arthritis glomerulonephritis and post-surgical stenosis and restenosis.

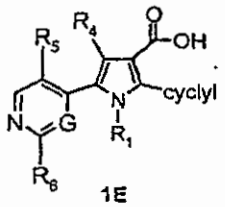
13. A compound of formula (I) or a pharmaceutically acceptable salt thereof, according to claim 9, **characterized in that** it is for use as a medicament together a radiation therapy or in a chemotherapy regimen in combination with at least one cytostatic or cytotoxic agent.

14. A pharmaceutical composition comprising a therapeutically effective amount of a compound of formula (I) or a pharmaceutically acceptable salt thereof, as defined in claim 1, and at least one pharmaceutically acceptable excipient, carrier and/or diluent.

15. An intermediate of the formula 1D or 1E:



1D



1E

wherein G, R_1, R_5 and R_6 are as defined in claim 1; $\mathbf{R_4}$ is hydrogen, halogen atom or an alkenyl group optionally substituted with from 1 to 3 substituents, and preferably I to 2 substituents, selected from the group consisting of alkoxy, substituted alkoxy, acyl, acylamino, acyloxy, amino, substituted amino, aminoacyl, aryl, substituted aryl, aryloxy, substituted aryloxy, cyano, halogen, hydroxyl, nitro, carboxyl, carboxyl esters, cycloalkyl, substituted cycloalkyl, heterocyclyl, and substituted heterocyclyl with the proviso that any hydroxyl substitution is not attached to a vinyl (unsaturated) carbon atom; cyclyl is as defined in claim 7 and Alk is a C_1-C_5 alkyl goup.