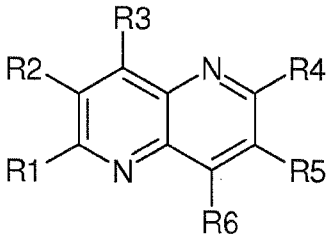
Claims

1. Naphthyridine derivatives of the general formula I



Formula I

in which the substituents R1-R6 have the following meaning:

R1, R2 and R3 can, independently of each other, be

(i) hydrogen,
(ii) unsubstituted or substituted alkyl,
(iii) unsubstituted or substituted heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,
(viii) hydroxyl,
(ix) alkoxy,
(x) amino,
(xi) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xii) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and
(xiii) NR7R8

where at least one of the substituents R1-R3 has to be an NR7R8 and
where R7 can be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl,

heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

and R8 may be:

-C(Y)NR9R10, where Y is O, S and R9 and R10 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

(iii) unsubstituted or substituted cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R9 and R10 together may be heterocyclyl,

-C(Y)NR11R12, where Y is NH and R11 and R12 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

(iii) unsubstituted or substituted cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R11 and R12 together may be heterocyclyl,

-C(NR13)R14 where R13 is H and R14 may be

(i) unsubstituted or substituted alkyl,

(ii) unsubstituted or substituted cycloalkyl,

(iii) unsubstituted or substituted heterocyclyl,

(iv) unsubstituted or substituted aryl,

(v) unsubstituted or substituted heteroaryl,

R4, R5 and R6 may be independently of one another:

(i) hydrogen,
(ii) unsubstituted or substituted alkyl,
(iii) unsubstituted or substituted cycloalkyl,
(iv) unsubstituted or substituted heterocyclyl,
(v) unsubstituted or substituted aryl,
(vi) unsubstituted or substituted heteroaryl,
(vii) halogen,
(viii) cyano,
(ix) hydroxyl,
(x) alkoxy,
(xi) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and

heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,

(xii) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

(xiii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

where at least one of the substituents R4-R6 has to be an unsubstituted or substituted (hetero)aryl or NR15R16,

their physiologically acceptable salts, hydrates, solvates, where the compounds of the general formula (I) and their salts, hydrates or solvates may be present in the form of their racemates, enantiomers and/or diastereomers, or in the form of mixtures of the enantiomers and/or diastereomers, in the form of the tautomers and their polymorphic forms.

2. Naphthyridine derivatives of the general formula I according to Claim 1 in which

R1 and R3 can, independently of each other, be

(i) hydrogen,
(ii) unsubstituted or substituted alkyl,
(iii) unsubstituted or substituted heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,

(viii) hydroxyl,
(ix) alkoxy,
(x) amino,
(xi) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xii) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and
(xiii) NR7R8

where at least one of the substituents R1 or R3 has to be an NR7R8 and
where R7 can be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

and R8 may be:

-C(Y)NR9R10, where Y is O, S and R9 and R10 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

(iii) unsubstituted or substituted cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R9 and R10 together may be heterocyclyl,

-C(Y)NR11R12, where Y is NH and R11 and R12 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

(iii) unsubstituted or substituted cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R11 and R12 together may be heterocyclyl,

-C(NR13)R14 where R13 is H and R14 may be

(i) unsubstituted or substituted alkyl,

(ii) unsubstituted or substituted cycloalkyl,

(iii) unsubstituted or substituted heterocyclyl,

(iv) unsubstituted or substituted aryl,

(v) unsubstituted or substituted heteroaryl,

R2 can be

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

(iii) unsubstituted or substituted heterocyclyl,

(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,
(viii) hydroxyl,
(ix) alkoxy,
(x) amino,
(xi) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xii) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and

R4 and R6 may be independently of one another:

(i) hydrogen,
(ii) unsubstituted or substituted alkyl,
(iii) unsubstituted or substituted cycloalkyl,
(iv) unsubstituted or substituted heterocyclyl,
(v) unsubstituted or substituted aryl,
(vi) unsubstituted or substituted heteroaryl,
(vii) halogen,
(viii) cyano,
(ix) hydroxyl,
(x) alkoxy,
(xi) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
(xii) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

(xiii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

R5 may be:

(i) unsubstituted or substituted aryl,
(ii) unsubstituted or substituted heteroaryl,
(iii) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together cycloalkyl or heterocyclyl, where cycloalkyl and heterocyclyl can, for their part, in turn be substituted.

3. Naphthyridine derivatives of the general formula I according to Claims 1 and 2 in which

R1 and R3 can, independently of each other, be

(i) hydrogen and,
(ii) NR7R8

where at least one of the substituents R1 or R3 has to be an NR7R8 and
where R7 can be hydrogen, alkyl, alkylaryl or alkylheteroaryl, and the alkyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

and R8 may be:

-C(Y)NR9R10, where Y is O, S and R9 and R10 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

(iii) unsubstituted or substituted cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R9 and R10 together may be heterocyclyl,

R2 can be

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

R4 and R6 may be independently of one another:

(i) hydrogen,

(ii) unsubstituted or substituted alkyl,

R5 may be:

(i) unsubstituted or substituted aryl,

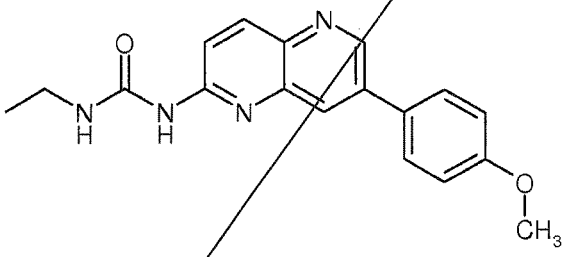
(ii) unsubstituted or substituted heteroaryl,

(iii) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and

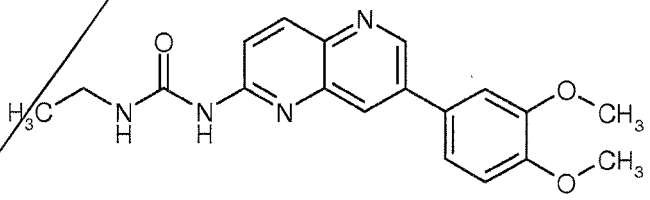
heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted.

4. Naphthyridine derivatives of the general formula I according to any of Claims 1 to 3, selected from the group consisting of:

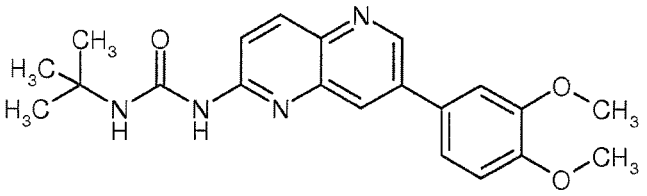
1-Ethyl-3-[7-(4-methoxy-phenyl)-[1,5]naphthyridin-2-yl]-urea **(Compound 1)**



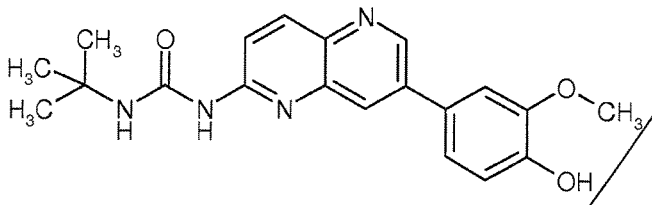
1-[7-(3,4-Dimethoxy-phenyl)-[1,5]naphthyridin-2-yl]-3-ethyl-urea **(Compound 2)**



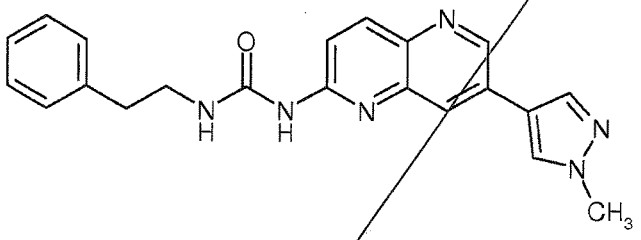
1-tert-Butyl-3-[7-(3,4-dimethoxy-phenyl)-[1,5]naphthyridin-2-yl]-urea **(Compound 3)**



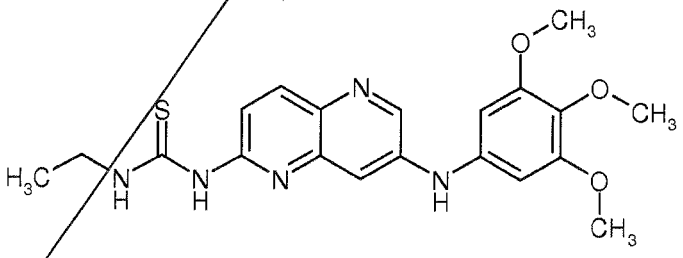
1-tert-Butyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-2-yl]-urea **(Compound 4)**



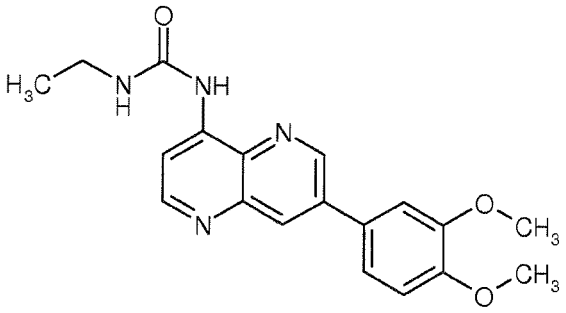
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-3-phenethyl-urea **(Compound 5)**



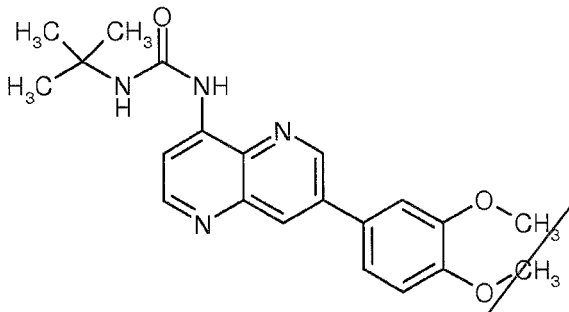
1-Ethyl-3-[7-(3,4,5-trimethoxy-phenylamino)-[1,5]naphthyridin-2-yl]-thiourea **(Compound 6)**



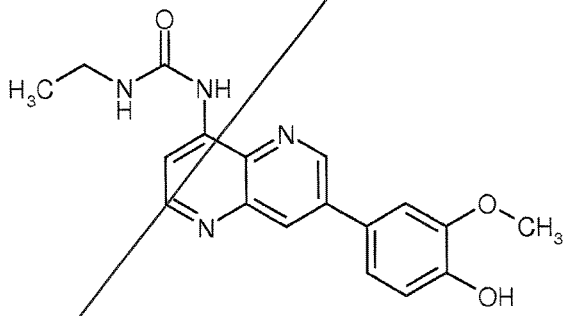
1-[7-(3,4-Dimethoxy-phenyl)-[1,5]naphthyridin-4-yl]-3-ethyl-urea **(Compound 7)**



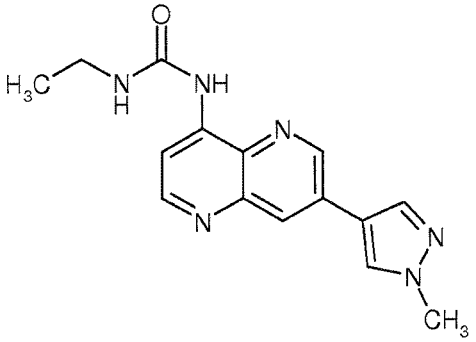
1-tert-Butyl-3-[7-(3,4-dimethoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea **(Compound 8)**



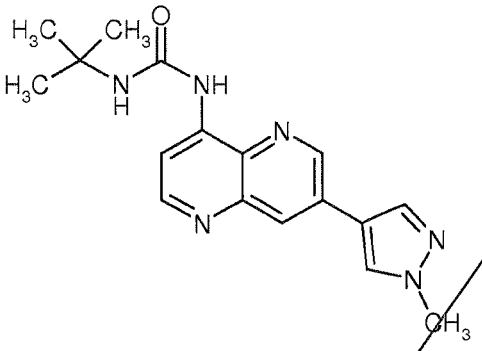
1-Ethyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea **(Compound 9)**



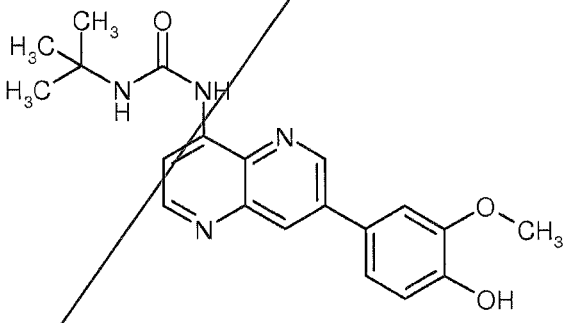
1-Ethyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 10)**



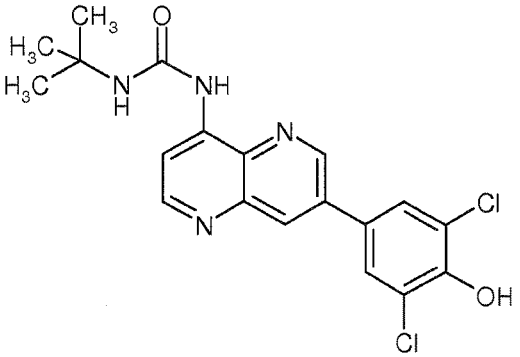
1-tert-Butyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 11)**



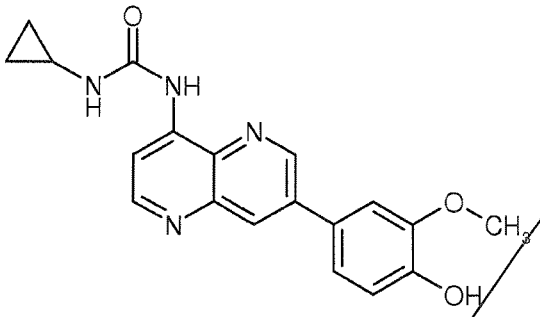
1-tert-Butyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea **(Compound 12)**



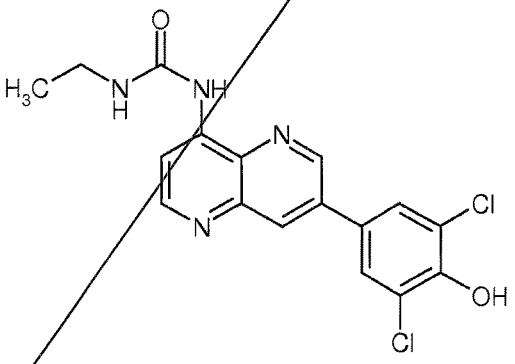
1-tert-Butyl-3-[7-(3,5-dichloro-4-hydroxy-phenyl)-[1,5]naphthyridin-4-yl]-urea **(Compound 13)**



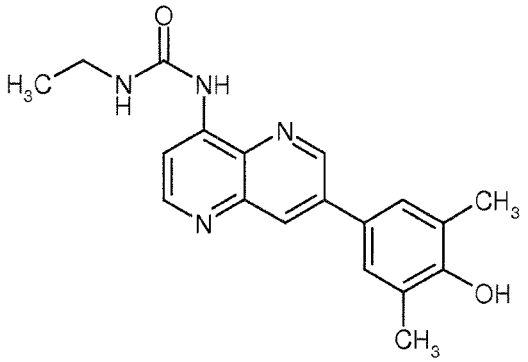
1-Cyclopropyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea **(Compound 14)**



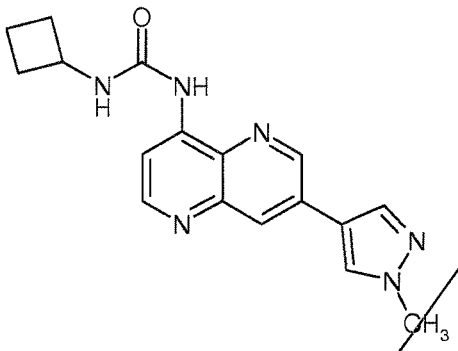
1-[7-(3,5-Dichloro-4-hydroxy-phenyl)-[1,5]naphthyridin-4-yl]-3-ethyl-urea **(Compound 15)**



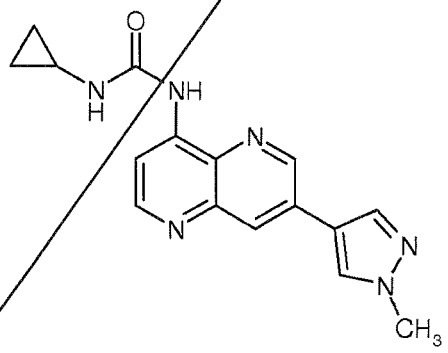
1-Ethyl-3-[7-(4-hydroxy-3,5-dimethyl-phenyl)-[1,5]naphthyridin-4-yl]-urea **(Compound 16)**



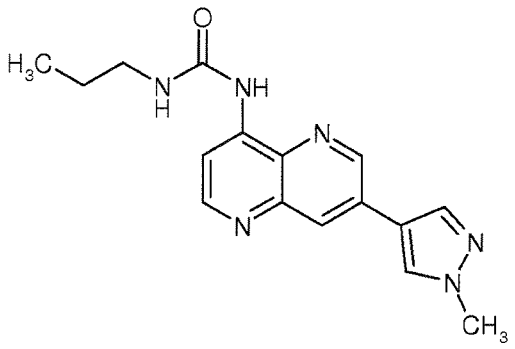
1-Cyclobutyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 17)**



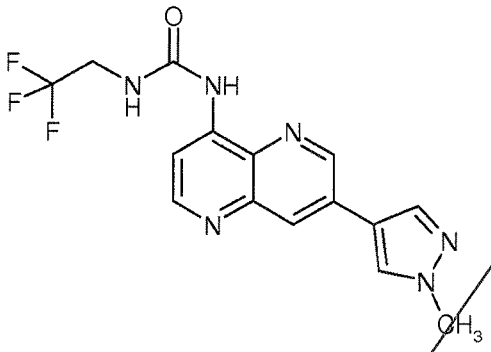
1-Cyclopropyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 18)**



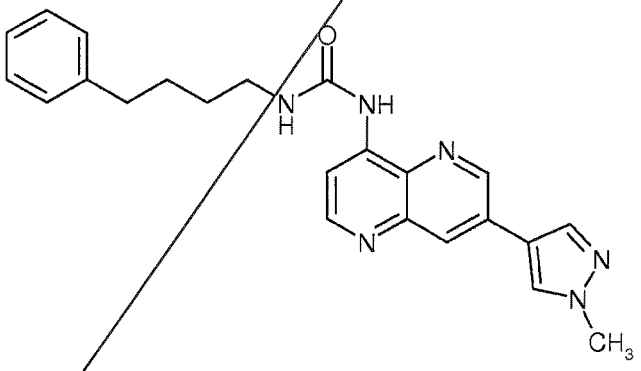
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-propyl-urea **(Compound 19)**



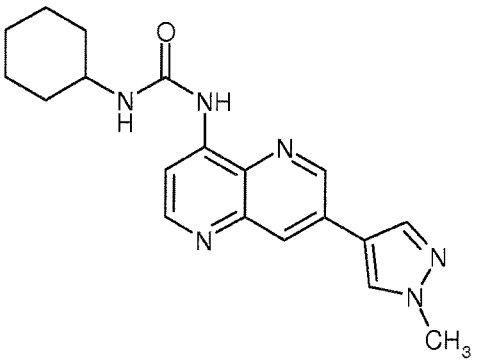
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-(2,2,2-trifluoro-ethyl)-urea **(Compound 20)**



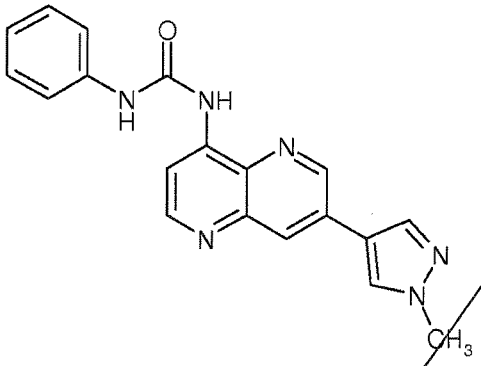
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-(4-phenyl-butyl)-urea **(Compound 21)**



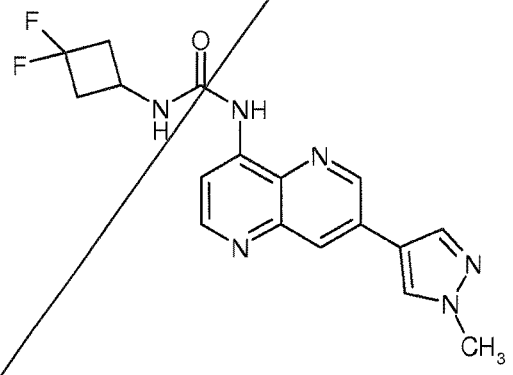
1-Cyclohexyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 22)**



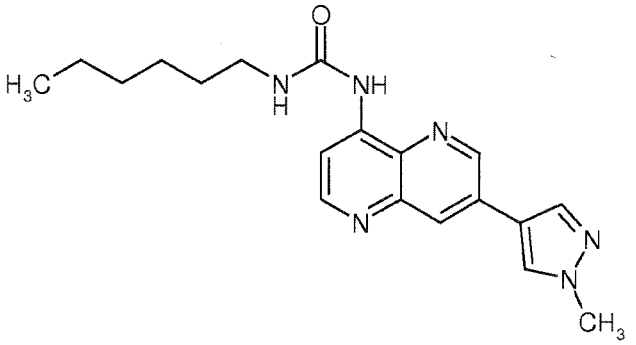
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-phenyl-urea **(Compound 23)**



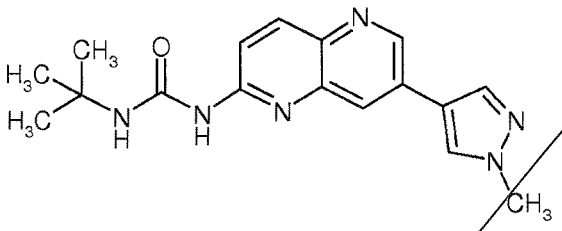
1-(3,3-Difluoro-cyclobutyl)-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 24)**



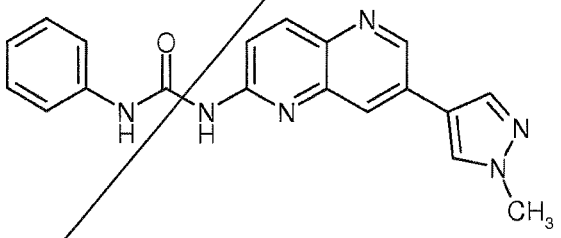
1-Hexyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 25)**



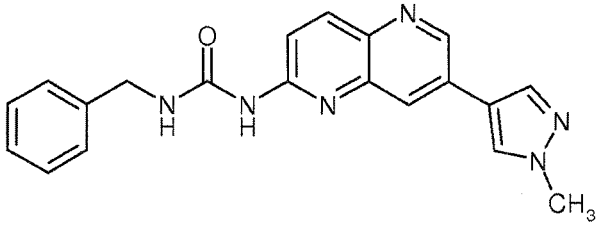
1-tert-Butyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-urea **(Compound 26)**



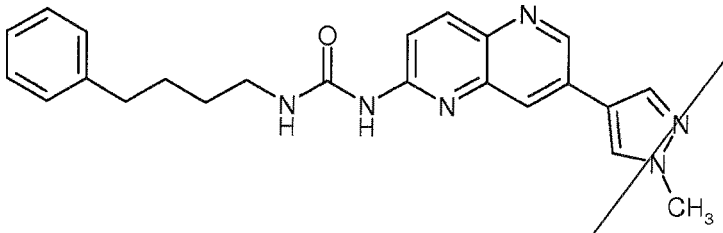
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-3-phenyl-urea **(Compound 27)**



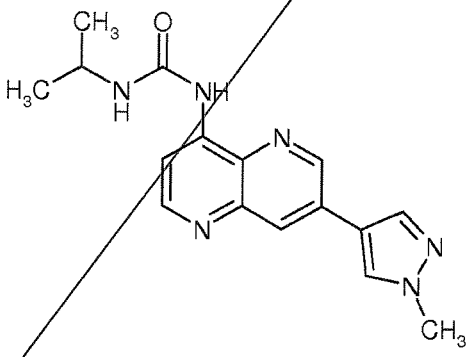
1-Benzyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-urea **(Compound 28)**



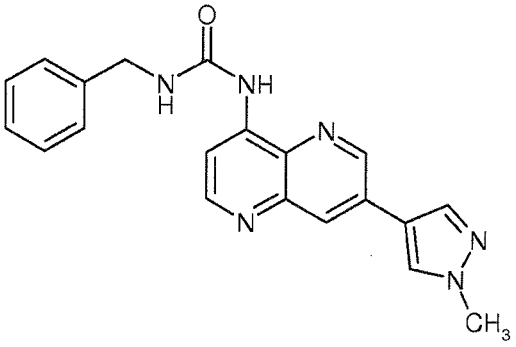
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-3-(4-phenyl-butyl)-urea **(Compound 29)**



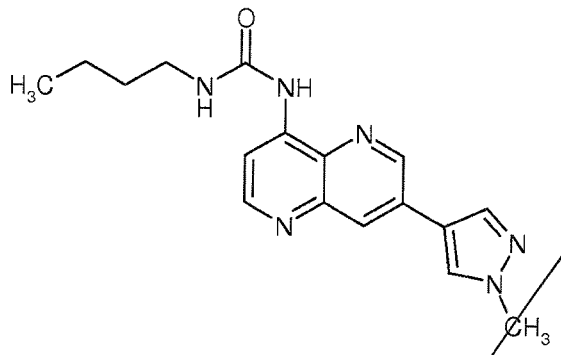
1-Isopropyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 30)**



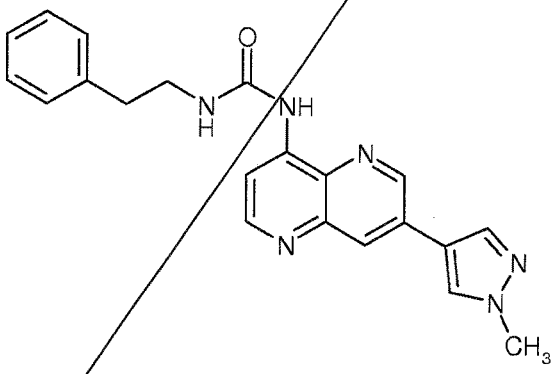
1-Benzyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 31)**



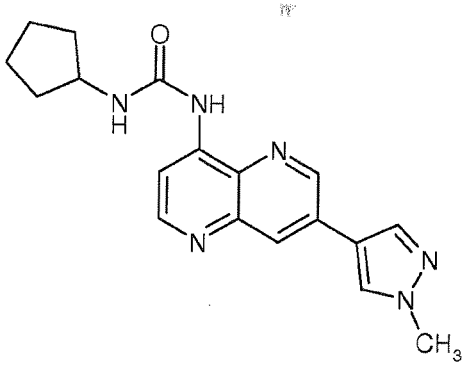
1-Butyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 32)**



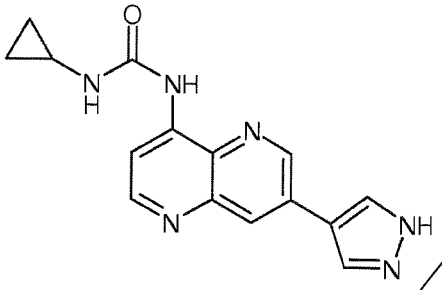
1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-phenethyl-urea **(Compound 33)**



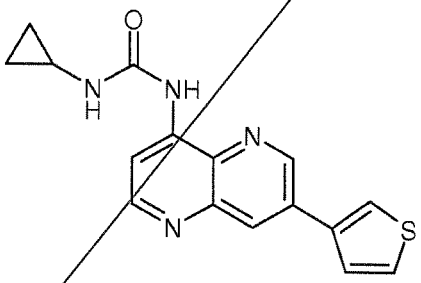
1-Cyclopentyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 34)**



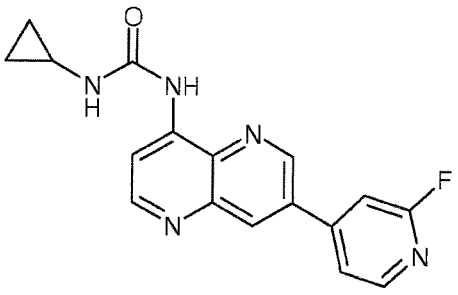
1-Cyclopropyl-3-[7-(1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 35)**



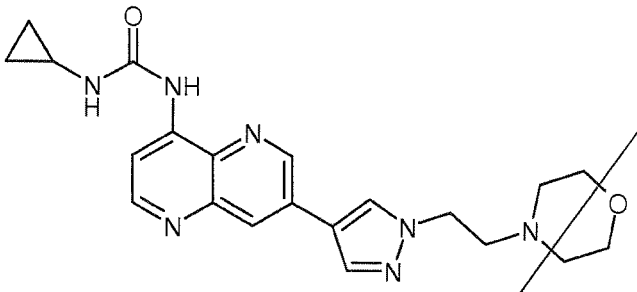
1-Cyclopropyl-3-(7-thiophen-3-yl-[1,5]naphthyridin-4-yl)-urea **(Compound 36)**



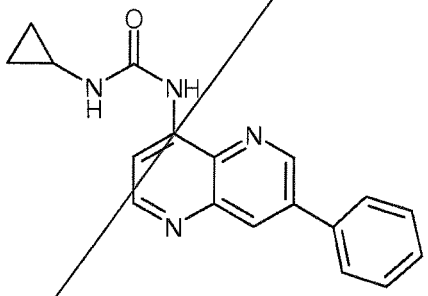
1-Cyclopropyl-3-[7-(2-fluoro-pyridin-4-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 37)**



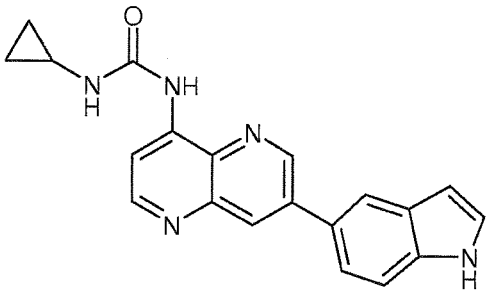
1-Cyclopropyl-3-{7-[1-(2-morpholin-4-yl-ethyl)-1H-pyrazol-4-yl]-[1,5]naphthyridin-4-yl}-urea **(Compound 38)**



1-Cyclopropyl-3-(7-phenyl-[1,5]naphthyridin-4-yl)-urea **(Compound 39)**



1-Cyclopropyl-3-[7-(1H-indol-5-yl)-[1,5]naphthyridin-4-yl]-urea **(Compound 40)**



5. Pharmaceutical composition comprising a pharmacologically active amount of at least one compound according to any of Claims 1 to 4.

6. Pharmaceutical composition according to Claim 5 where the composition comprises at least one further pharmacologically active substance.

7. Pharmaceutical composition according to Claim 5 or 6 where the composition additionally comprises pharmaceutically acceptable carriers and/or auxiliaries.

8. Pharmaceutical composition according to any of Claims 5-7 where the additional pharmacologically active substance is selected from the group consisting of: asparaginase, bleomycin, carboplatin, carmustine, chlorambucil, cisplatin, colaspase, cyclophosphamide, cytarabine, dacarbazine, dactinomycin, daunorubicin, doxorubicin (adriamycin), epirubicin, etoposide, 5-fluorouracil, hexamethylmelamine, hydroxyurea, ifosfamide, irinotecan, leucovorin, lomustine, mechlorethamine, 6-mercaptopurine, mesna, methotrexate, mitomycin C, mitoxantrone, prednisolone, prednisone, procarbazine, raloxifen, streptozocin, tamoxifen, thalidomide, thioguanine, topotecan, vinblastine, vincristine, vindesine, aminoglutethimide, L-asparaginase, azathioprine, 5-azacytidine cladribine, busulphan, diethylstilbestrol, 2',2'-difluorodeoxycytidine, docetaxel, erythrohydroxynonyladenine, ethynylestradiol, 5-fluorodeoxyuridine, 5-fluorodeoxyuridine monophosphate, fludarabine phosphate, fluoxymesterone, flutamide, hydroxyprogesterone caproate, idarubicin, interferon, medroxyprogesterone acetate, megestrol acetate, melphalan, mitotane, paclitaxel, oxaliplatin, pentostatin, N-phosphonoacetyl-L-aspartate (PALA), plicamycin, semustine, teniposide, testosterone propionate, thiotepa, trimethylmelamine, uridine, vinorelbine, epothilone, gemcitabine, taxotere, BCNU, CCNU, DTIC, herceptin, avastin, erbitux, sorafenib (nexavar), imatinib (gleevec, glivec), gefitinib (iressa), erlotinib (tarceva), rapamycin, actinomycin D, sunitinib (sutent), dasatinib (sprycel), nilotinib (tasigna), lapatinib (tykerb, tyverb), vatalanib.

9. Compound according to any of Claims 1 to 4 for use as medicament.

10. Use of the naphthyridine derivatives of the general Formula I according to any of Claims 1 to 4 as therapeutic active ingredients for producing medicaments for the treatment of disorders which result from misdirected cellular signal transduction processes.

11. Use according to Claim 10 for the treatment of disorders based on pathological cell proliferations such as restenosis, psoriasis, arteriosclerosis and cirrhosis of the liver.

12. Use according to Claim 10 for the treatment of malignant or benign oncoses, in particular of the breast, prostate, lung, skin, colon and ovaries.

13. Use according to Claims 10 to 12 for the treatment of disorders which result from misdirected cellular signal transduction processes, and of disorders based on pathological cell proliferations and malignant or benign oncoses in humans, in mammals and in poultry.

14. Use according to Claim 10 for the modulation of misdirected cellular signal transduction processes, in particular for influencing the function of active and inactive tyrosine and serine/threonine kinases, such as c-Raf, B-Raf, Mek, MAPKs, PDGFRbeta, Flt-3, IGF1R, PKB/Akt1, c-Kit, c-Abl, FGFR1, KDR, mTOR, Aurora A, Aurora B and Aurora C.

15. Use according to any of Claims 10 to 14 where the medicament additionally comprises at least one further pharmacologically active substance.

16. Use according to Claim 15 where the additional pharmacologically active substance is selected from the group consisting of:
asparaginase, bleomycin, carboplatin, carmustine, chlorambucil, cisplatin, colaspase, cyclophosphamide, cytarabine, dacarbazine, dactinomycin, daunorubicin, doxorubicin (adriamycin), epirubicin, etoposide, 5-fluorouracil, hexamethylmelamine, hydroxyurea, ifosfamide, irinotecan, leucovorin, lomustine, mechlorethamine, 6-mercaptopurine, mesna, methotrexate, mitomycin C, mitoxantrone, prednisolone, prednisone, procarbazine, raloxifen, streptozocin, tamoxifen, thalidomide, thioguanine, topotecan, vinblastine, vincristine, vindesine, aminoglutethimide, L-asparaginase, azathioprine, 5-azacytidine cladribine, busulphan, diethylstilbestrol, 2',2'-difluorodeoxycytidine,

docetaxel, erythrohydroxynonyladenine, ethynylestradiol, 5-fluorodeoxyuridine, 5-fluorodeoxyuridine monophosphate, fludarabine phosphate, fluoxymesterone, flutamide, hydroxyprogesterone caproate, idarubicin, interferon, medroxyprogesterone acetate, megestrol acetate, melphalan, mitotane, paclitaxel, oxaliplatin, pentostatin, N-phosphonoacetyl-L-aspartate (PALA), plicamycin, semustine, teniposide, testosterone propionate, thiotepa, trimethylmelamine, uridine, vinorelbine, epothilone, gemcitabine, taxotere, BCNU, CCNU, DTIC, herceptin, avastin, erbitux, sorafenib (nexavar), imatinib (gleevec, glivec), gefitinib (iressa), erlotinib (tarceva), rapamycin, actinomycin D, sunitinib (sutent), dasatinib (sprycel), nilotinib (tasigna), lapatinib (tykerb, tyverb), vatalanib.

17. Medicament for treating disorders which result from misdirected cellular signal transduction processes, comprising at least one naphthyridine derivative according to any of Claims 1 to 4.

18. Medicament according to Claim 17 for the treatment of disorders based on pathological cell proliferations such as restenosis, psoriasis, arteriosclerosis and cirrhosis of the liver.

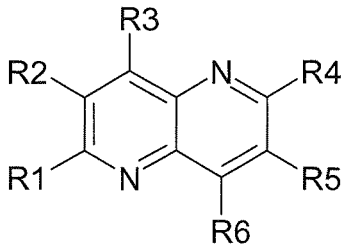
19. Medicament according to Claim 17 for the treatment of malignant or benign oncoses, in particular of the breast, prostate, lung, skin, colon and ovaries

20. Medicament according to Claims 17-19, comprising a naphthyridine derivative in combination with at least one further pharmaceutically active compound and/or pharmaceutically acceptable carriers and/or auxiliaries.

21. Process for preparing a medicament according to Claims 17 to 20, characterized in that one or more naphthyridine derivatives according to any of Claims 1 to 3 are processed to pharmaceutical preparations or converted into a therapeutically usable form with acceptable carriers and/or auxiliaries.

Claims

1. Naphthyridine derivatives of the general formula I



Formula I

in which the substituents R1-R6 have the following meaning:

R1 can, independently of each other, be

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,
(iii) unsubstituted or substituted heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,
(viii) alkoxy,
(ix) amino,
(x) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xi) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and
(xii) NR7R8;

R2 can independently be

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,
(iii) unsubstituted or substituted heterocyclyl,

(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,
(viii) hydroxyl,
(ix) alkoxy,
(x) amino,
(xi) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xii) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and
(xiii) NR7R8;

R3 can be independently be
(i) hydrogen,
(ii) unsubstituted or substituted, C_{1-12}-alkanyl or C_{2-12}-alkenyl,
(iii) unsubstituted or substituted saturated heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) halogen,
(vi) cyano,
(vii) hydroxyl,
(viii) alkoxy,
(ix) amino,
(x) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xi) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and
(xii) NR7R8;

where at least one of the substituents R1-R3 has to be an NR7R8 and
where R7 can be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

and R8 may be:

-C(Y)NR9R10, where Y is O, S and R9 and R10 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) or R9 and R10 together may be heterocyclyl,

-C(Y)NR11R12, where Y is NH and R11 and R12 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R11 and R12 together may be heterocyclyl,

-C(NR13)R14 where R13 is H and R14 may be

(i) unsubstituted or substituted, saturated or unsaturated alkyl,

(ii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iii) unsubstituted or substituted heterocyclyl,

(iv) unsubstituted or substituted aryl,

(v) unsubstituted or substituted heteroaryl,

R4 may be:

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,
(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,
(iv) unsubstituted or substituted heterocyclyl,
(v) unsubstituted or substituted aryl,
(vi) unsubstituted or substituted heteroaryl,
(vii) halogen,
(viii) cyano,
(ix) alkoxy,
(x) NR15R16, where R15 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
R16 can be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;
(xi) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl,

cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalyl substituent can be saturated or unsaturated;

(xii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl subtituent can be saturated or unsaturated;

and R5 may independently be

(i) hydrogen,

(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) halogen,

(viii) cyano,

(ix) hydroxyl,

(x) alkoxy,

(xi) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xii) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xiii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl,

cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

and R6 may independently be

(i) hydrogen,

(ii) unsubstituted or substituted, C_{1-12}-alkanyl or C_{2-12}-alkenyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted saturated heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) halogen,

(vii) cyano,

(viii) hydroxyl,

(ix) alkoxy,

(x) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xi) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

where at least one of the substituents R4-R6 has to be an unsubstituted or substituted (hetero)aryl or NR15R16,

their physiologically acceptable salts, hydrates, solvates, where the compounds of the general formula (I) and their salts, hydrates or solvates may be present in the form of their racemates, enantiomers and/or diastereomers, or in the form of mixtures of the enantiomers and/or diastereomers, in the form of the tautomers and their polymorphic forms.

2. Naphthyridine derivatives of the general formula I according to Claim 1 in which

R1 can be

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,
(iii) unsubstituted or substituted heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,
(viii) alkoxy,
(ix) amino,
(x) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xi) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and
(xii) NR7R8

R3 can independently be

(i) hydrogen,
(ii) unsubstituted or substituted, C_{1-12}-alkanyl or C_{2-12}-alkenyl,
(iii) unsubstituted or substituted saturated heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) halogen,
(vi) cyano,
(vii) hydroxyl,
(viii) alkoxy,
(ix) amino,

(x) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,

(xi) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and

(xii) NR7R8

where at least one of the substituents R1 or R3 has to be an NR7R8 and where R7 can be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

and R8 may be:

-C(Y)NR9R10, where Y is O, S and R9 and R10 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

(iii) unsubstituted or substituted. Saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) or R9 and R10 together may be heterocyclyl,

-C(Y)NR11R12, where Y is NH and R11 and R12 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) unsubstituted or substituted heteroaryl,

(vii) or R11 and R12 together may be heterocyclyl,

-C(NR13)R14 where R13 is H and R14 may be

(i) unsubstituted or substituted, saturated or unsaturated alkyl,

(ii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iii) unsubstituted or substituted heterocyclyl,

(iv) unsubstituted or substituted aryl,

(v) unsubstituted or substituted heteroaryl,

R2 can be

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,
(iii) unsubstituted or substituted heterocyclyl,
(iv) unsubstituted or substituted aryl,
(v) unsubstituted or substituted heteroaryl,
(vi) halogen,
(vii) cyano,

(viii) hydroxyl,
(ix) alkoxy,
(x) amino,
(xi) carboxyl, alkoxycarbonyl, carboxyalkyl or alkoxycarbonylalkyl,
(xii) alkoxycarbonylamino, alkoxycarbonylaminoalkyl, and

R4 may be:

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,
(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,
(iv) unsubstituted or substituted heterocyclyl,
(v) unsubstituted or substituted aryl,
(vi) unsubstituted or substituted heteroaryl,
(vii) halogen,
(viii) cyano,
(ix) alkoxy,
(x) NR15R16, where R15 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
R16 can be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;
(xi) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

R5 may be:

(i) unsubstituted or substituted aryl,

(ii) unsubstituted or substituted heteroaryl,

(iii) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together cycloalkyl or heterocyclyl, where cycloalkyl and heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

and R6 may independently be

(i) hydrogen,

(ii) unsubstituted or substituted, C_{1-12}-alkanyl or C_{2-12}-alkenyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted saturated heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) halogen,

(vii) cyano,

(viii) hydroxyl,

(ix) alkoxy,

(x) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,

or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xi) OR17, where R17 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

(xii) SR18, where R18 can be alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted, and where the alkyl or cycloalkyl substituent can be saturated or unsaturated.

3. Naphthyridine derivatives of the general formula I according to Claims 1 and 2 in which

R1 and R3 can, independently of each other, be

(i) hydrogen and,
(ii) NR7R8

where at least one of the substituents R1 or R3 has to be an NR7R8 and
where R7 can be hydrogen, alkyl, alkylaryl or alkylheteroaryl, and the alkyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated;

and R8 may be:

-C(Y)NR9R10, where Y is O, S and R9 and R10 may be independently of one another

(i) hydrogen,

(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

(iii) unsubstituted or substituted, saturated or unsaturated cycloalkyl,

(iv) unsubstituted or substituted heterocyclyl,

(v) unsubstituted or substituted aryl,

(vi) or R9 and R10 together may be heterocyclyl,

R2 can be

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

R4 may:

(i) hydrogen,
(ii) unsubstituted or substituted, saturated or unsaturated alkyl,

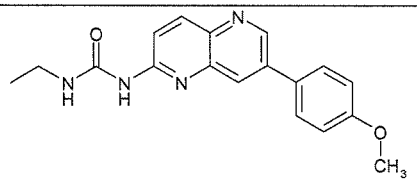
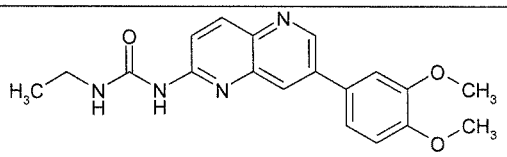
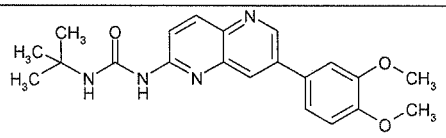
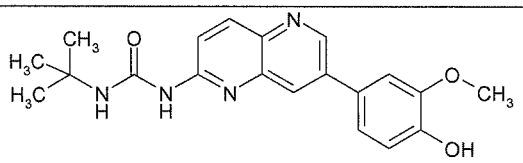
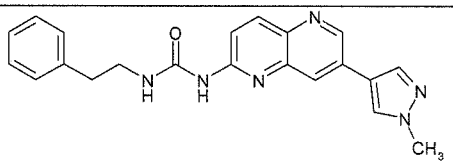
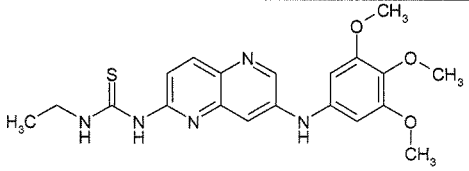
R6 may independently be
(i) hydrogen,
(ii) unsubstituted or substituted, C_{1-12}-alkanyl or C_{2-12}-alkenyl,

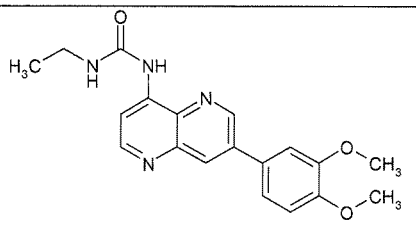
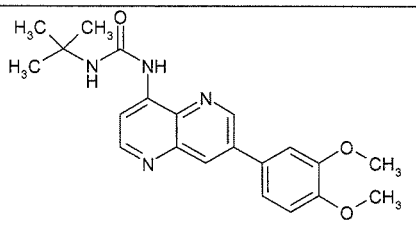
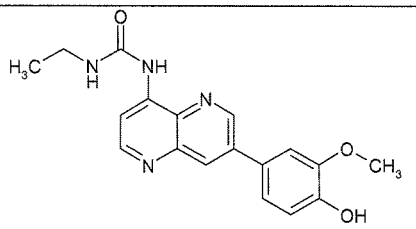
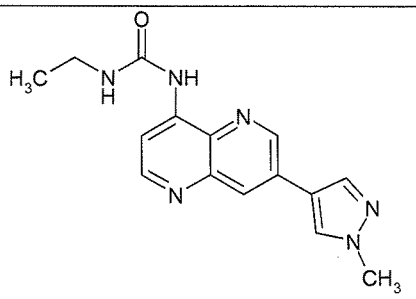
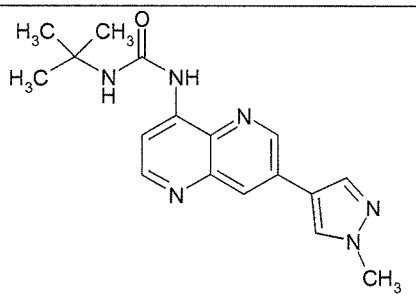
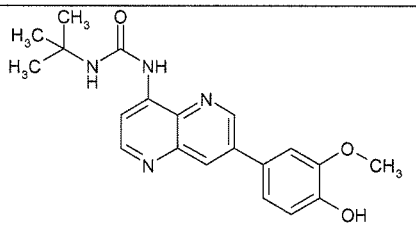
R5 may be:

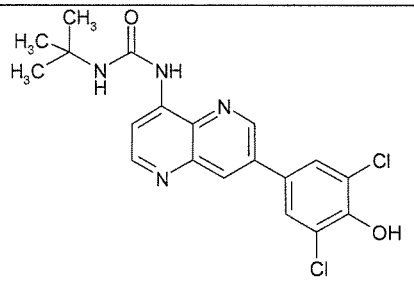
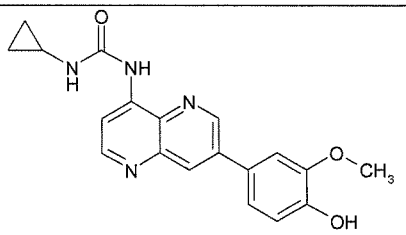
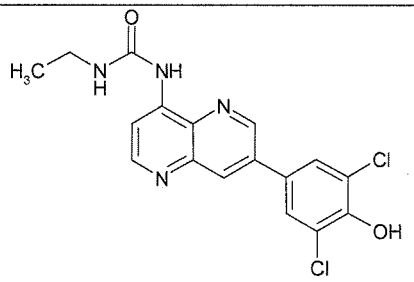
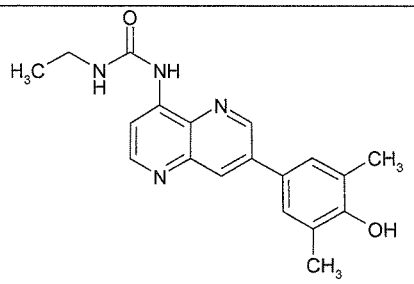
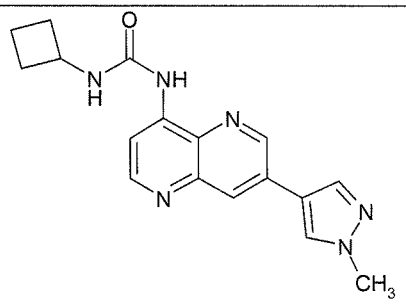
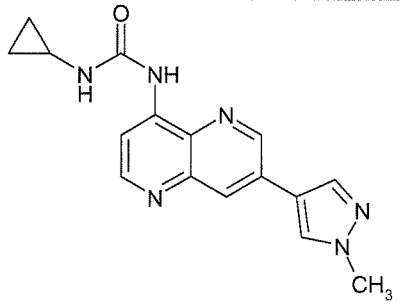
(i) unsubstituted or substituted aryl,
(ii) unsubstituted or substituted heteroaryl,
(iii) NR15R16, where R15 and R16 can, independently of each other, be hydrogen, alkyl, cycloalkyl, heterocyclyl, aryl, heteroaryl, alkylcyclyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl, and the alkyl, cycloalkyl, heterocyclyl, aryl and

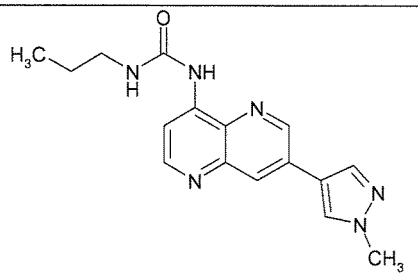
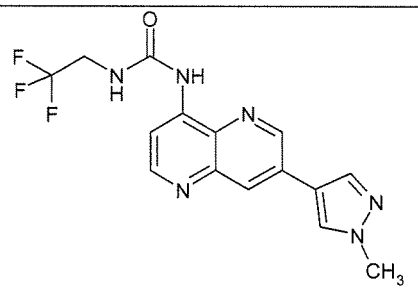
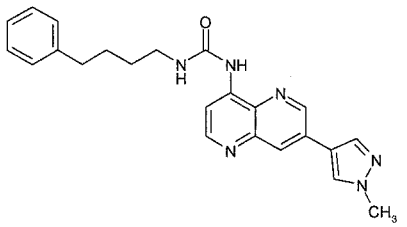
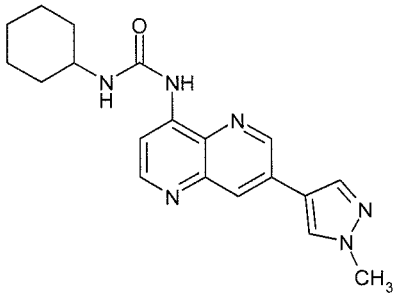
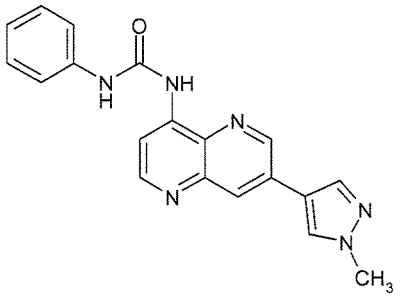
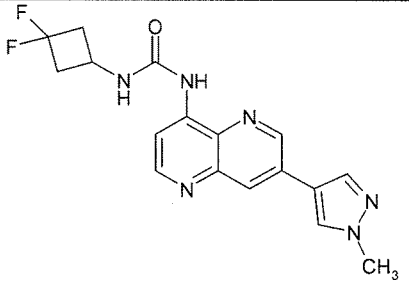
heteroaryl, alkylcycloalkyl, alkylheterocyclyl, alkylaryl or alkylheteroaryl substituents can, for their part, in turn be substituted,
or R15 and R16 are together heterocyclyl, where heterocyclyl can, for their part, in turn be substituted,
and where the alkyl or cycloalkyl substituent can be saturated or unsaturated.

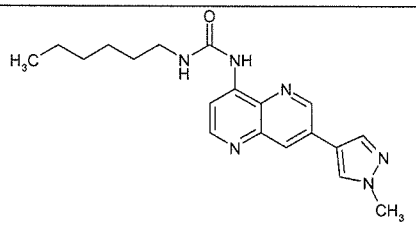
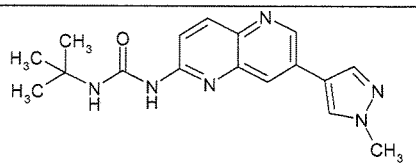
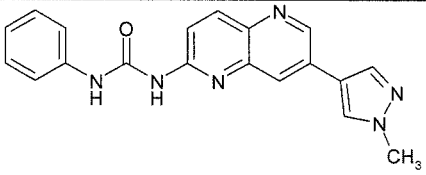
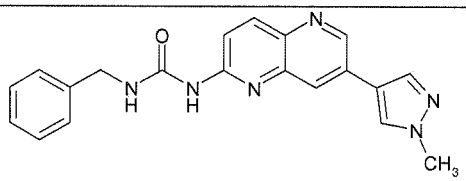
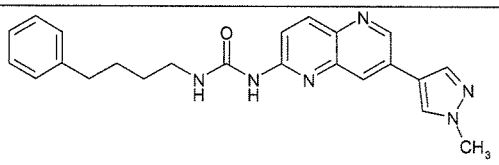
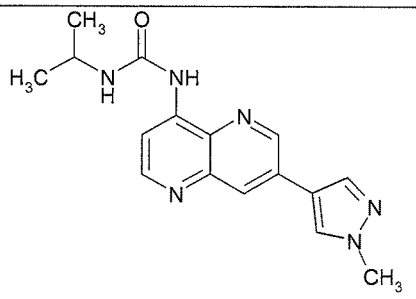
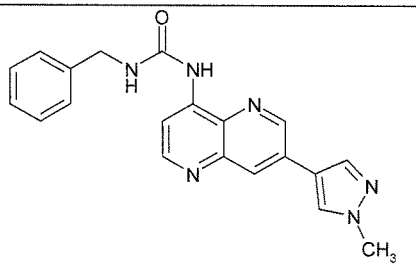
4. Naphthyridine derivatives of the general formula I according to any of Claims 1 to 3, selected from the group consisting of:

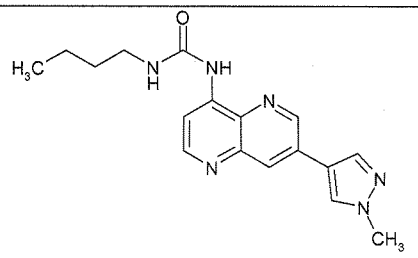
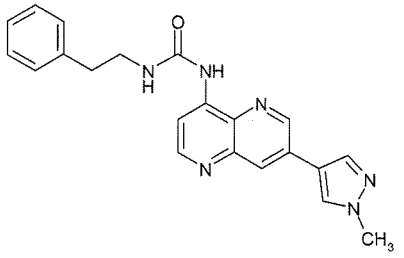
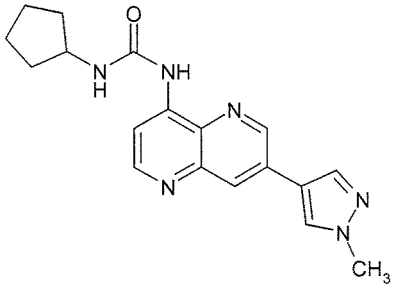
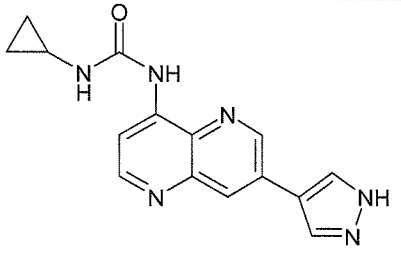
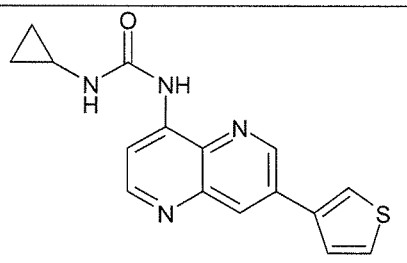
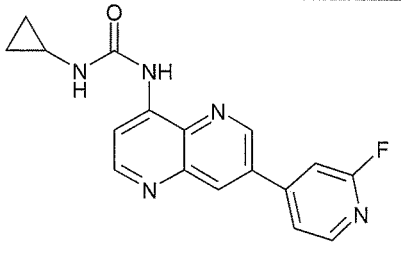
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1		1-Ethyl-3-[7-(4-methoxy-phenyl)-[1,5]naphthyridin-2-yl]-urea
2		1-[7-(3,4-Dimethoxy-phenyl)-[1,5]naphthyridin-2-yl]-3-ethyl-urea
3		1-tert-Butyl-3-[7-(3,4-dimethoxy-phenyl)-[1,5]naphthyridin-2-yl]-urea
4		1-tert-Butyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-2-yl]-urea
5		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-3-phenethyl-urea
6		1-Ethyl-3-[7-(3,4,5-trimethoxy-phenylamino)-[1,5]naphthyridin-2-yl]-thiourea

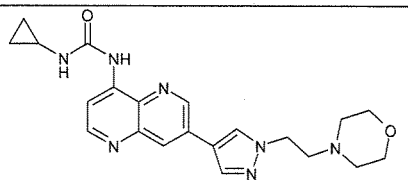
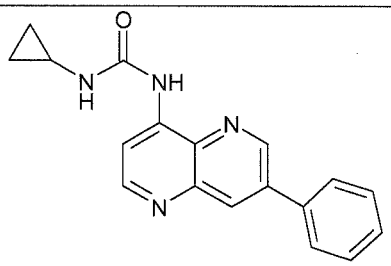
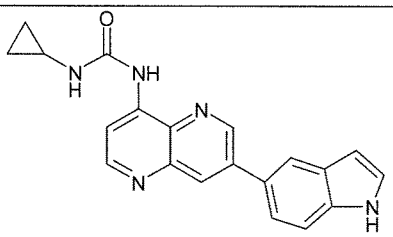
7		1-[7-(3,4-Dimethoxy-phenyl)-[1,5]naphthyridin-4-yl]-3-ethyl-urea
8		1-tert-Butyl-3-[7-(3,4-dimethoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea
9		1-Ethyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea
10		1-Ethyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
11		1-tert-Butyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
12		1-tert-Butyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea

13		1-tert-Butyl-3-[7-(3,5-dichloro-4-hydroxy-phenyl)-[1,5]naphthyridin-4-yl]-urea
14		1-Cyclopropyl-3-[7-(4-hydroxy-3-methoxy-phenyl)-[1,5]naphthyridin-4-yl]-urea
15		1-[7-(3,5-Dichloro-4-hydroxy-phenyl)-[1,5]naphthyridin-4-yl]-3-ethyl-urea
16		1-Ethyl-3-[7-(4-hydroxy-3,5-dimethyl-phenyl)-[1,5]naphthyridin-4-yl]-urea
17		1-Cyclobutyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
18		1-Cyclopropyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea

19		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-propyl-urea
20		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-(2,2,2-trifluoro-ethyl)-urea
21		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-(4-phenyl-butyl)-urea
22		1-Cyclohexyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
23		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-phenyl-urea
24		1-(3,3-Difluoro-cyclobutyl)-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea

25		1-Hexyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
26		1-tert-Butyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-urea
27		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-3-phenyl-urea
28		1-Benzyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-urea
29		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-2-yl]-3-(4-phenyl-butyl)-urea
30		1-Isopropyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
31		1-Benzyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea

32		1-Butyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
33		1-[7-(1-Methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-3-phenethyl-urea
34		1-Cyclopentyl-3-[7-(1-methyl-1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
35		1-Cyclopropyl-3-[7-(1H-pyrazol-4-yl)-[1,5]naphthyridin-4-yl]-urea
36		1-Cyclopropyl-3-(7-thiophen-3-yl-[1,5]naphthyridin-4-yl)-urea
37		1-Cyclopropyl-3-[7-(2-fluoro-pyridin-4-yl)-[1,5]naphthyridin-4-yl]-urea

38		1-Cyclopropyl-3-{7-[1-(2-morpholin-4-yl-ethyl)-1H-pyrazol-4-yl]-[1,5]naphthyridin-4-yl}-urea
39		1-Cyclopropyl-3-(7-phenyl-[1,5]naphthyridin-4-yl)-urea
40		1-Cyclopropyl-3-[7-(1H-indol-5-yl)-[1,5]naphthyridin-4-yl]-urea

5. Pharmaceutical composition comprising a pharmacologically active amount of at least one compound according to any of Claims 1 to 4.

6. Pharmaceutical composition according to Claim 5 where the composition comprises at least one further pharmacologically active substance.

7. Pharmaceutical composition according to Claim 5 or 6 where the composition additionally comprises pharmaceutically acceptable carriers and/or auxiliaries.

8. Pharmaceutical composition according to any of Claims 5-7 where the additional pharmacologically active substance is selected from the group consisting of:
asparaginase, bleomycin, carboplatin, carmustine, chlorambucil, cisplatin, colaspase, cyclophosphamide, cytarabine, dacarbazine, dactinomycin, daunorubicin, doxorubicin (adriamycin), epirubicin, etoposide, 5-fluorouracil, hexamethylmelamine, hydroxyurea, ifosfamide, irinotecan, leucovorin, lomustine, mechlorethamine, 6-mercaptopurine, mesna, methotrexate, mitomycin C, mitoxantrone, prednisolone, prednisone, procarbazine, raloxifen, streptozocin, tamoxifen, thalidomide, thioguanine, topotecan,

vinblastine, vincristine, vindesine, aminoglutethimide, L-asparaginase, azathioprine, 5-azacytidine cladribine, busulphan, diethylstilbestrol, 2',2'-difluorodeoxycytidine, docetaxel, erythrohydroxynonyladenine, ethynylestradiol, 5-fluorodeoxyuridine, 5-fluorodeoxyuridine monophosphate, fludarabine phosphate, fluoxymesterone, flutamide, hydroxyprogesterone caproate, idarubicin, interferon, medroxyprogesterone acetate, megestrol acetate, melphalan, mitotane, paclitaxel, oxaliplatin, pentostatin, N-phosphonoacetyl-L-aspartate (PALA), plicamycin, semustine, teniposide, testosterone propionate, thiotepa, trimethylmelamine, uridine, vinorelbine, epothilone, gemcitabine, taxotere, BCNU, CCNU, DTIC, herceptin, avastin, erbitux, sorafenib (nexavar), imatinib (gleevec, glivec), gefitinib (iressa), erlotinib (tarceva), rapamycin, actinomycin D, sunitinib (sutent), dasatinib (sprycel), nilotinib (tasigna), lapatinib (tykerb, tyverb), vatalanib.

9. Compound according to any of Claims 1 to 4 for use as medicament.

10. Use of the naphthyridine derivatives of the general Formula I according to any of Claims 1 to 4 as therapeutic active ingredients for producing medicaments for the treatment of disorders which result from misdirected cellular signal transduction processes.

11. Use according to Claim 10 for the treatment of disorders based on pathological cell proliferations such as restenosis, psoriasis, arteriosclerosis and cirrhosis of the liver.

12. Use according to Claim 10 for the treatment of malignant or benign oncoses, in particular of the breast, prostate, lung, skin, colon and ovaries.

13. Use according to Claims 10 to 12 for the treatment of disorders which result from misdirected cellular signal transduction processes, and of disorders based on pathological cell proliferations and malignant or benign oncoses in humans, in mammals and in poultry.

14. Use according to Claim 10 for the modulation of misdirected cellular signal transduction processes, in particular for influencing the function of active and inactive tyrosine and serine/threonine kinases, such as c-Raf, B-Raf, Mek, MAPKs,

PDGFRbeta, Flt-3, IGF1R, PKB/Akt1, c-Kit, c-Abl, FGFR1, KDR, mTOR, Aurora A, Aurora B and Aurora C.

15. Use according to any of Claims 10 to 14 where the medicament additionally comprises at least one further pharmacologically active substance.

16. Use according to Claim 15 where the additional pharmacologically active substance is selected from the group consisting of:
asparaginase, bleomycin, carboplatin, carmustine, chlorambucil, cisplatin, colaspase, cyclophosphamide, cytarabine, dacarbazine, dactinomycin, daunorubicin, doxorubicin (adriamycin), epirubicin, etoposide, 5-fluorouracil, hexamethylmelamine, hydroxyurea, ifosfamide, irinotecan, leucovorin, lomustine, mechlorethamine, 6-mercaptopurine, mesna, methotrexate, mitomycin C, mitoxantrone, prednisolone, prednisone, procarbazine, raloxifen, streptozocin, tamoxifen, thalidomide, thioguanine, topotecan, vinblastine, vincristine, vindesine, aminoglutethimide, L-asparaginase, azathioprine, 5-azacytidine cladribine, busulphan, diethylstilbestrol, 2',2'-difluorodeoxycytidine, docetaxel, erythrohydroxynonyladenine, ethynylestradiol, 5-fluorodeoxyuridine, 5-fluorodeoxyuridine monophosphate, fludarabine phosphate, fluoxymesterone, flutamide, hydroxyprogesterone caproate, idarubicin, interferon, medroxyprogesterone acetate, megestrol acetate, melphalan, mitotane, paclitaxel, oxaliplatin, pentostatin, N-phosphonoacetyl-L-aspartate (PALA), plicamycin, semustine, teniposide, testosterone propionate, thiotepa, trimethylmelamine, uridine, vinorelbine, epothilone, gemcitabine, taxotere, BCNU, CCNU, DTIC, herceptin, avastin, erbitux, sorafenib (nexavar), imatinib (gleevec, glivec), gefitinib (iressa), erlotinib (tarceva), rapamycin, actinomycin D, sunitinib (sutent), dasatinib (sprycel), nilotinib (tasigna), lapatinib (tykerb, tyverb), vatalanib.

17. Medicament for treating disorders which result from misdirected cellular signal transduction processes, comprising at least one naphthyridine derivative according to any of Claims 1 to 4.

18. Medicament according to Claim 17 for the treatment of disorders based on pathological cell proliferations such as restenosis, psoriasis, arteriosclerosis and cirrhosis of the liver.

19. Medicament according to Claim 17 for the treatment of malignant or benign oncoses, in particular of the breast, prostate, lung, skin, colon and ovaries

20. Medicament according to Claims 17-19, comprising a naphthyridine derivative in combination with at least one further pharmaceutically active compound and/or pharmaceutically acceptable carriers and/or auxiliaries.

21. Process for preparing a medicament according to Claims 17 to 20, characterized in that one or more naphthyridine derivatives according to any of Claims 1 to 3 are processed to pharmaceutical preparations or converted into a therapeutically usable form with acceptable carriers and/or auxiliaries.