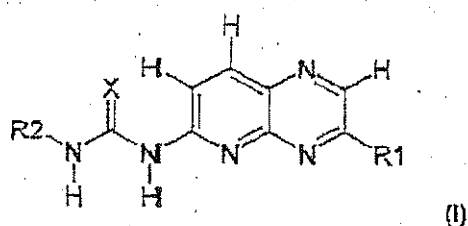


Summary

In a first aspect, there is provided the use of a compound according the general formula (I)



wherein the substituents R1, R2, X have the following meaning:

X is O

R1

(I) substituted aryl, wherein the aryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, NH-alkyl-NH₂, NH-alkyl-OH, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-aryl, S-heteroaryl, OH, OCF₃, O-alkyl, O-cycloalkyl, O-heterocyclyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, O-alkyl-OH, O-(CH₂)_n-O, O-(CH₂-CH₂-O)_n-CH₂-CH₂-OH, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl, OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OC(O)-NH-alkyl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, O-CO₂-alkyl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl, CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)NH-alkyl, C(O)NH-cycloalkyl, C(O)NH-heterocyclyl, C(O)NH-aryl, C(O)NH-heteroaryl, C(O)NH-alkyl-cycloalkyl, C(O)NH-alkyl-heterocyclyl, C(O)NH-alkyl-aryl, C(O)NH-

alkyl-heteroaryl, $C(O)N(alkyl)_2$, $C(O)N(cycloalkyl)_2$, $C(O)N(aryl)_2$, $C(O)N(heteroaryl)_2$, SO -alkyl, SO -aryl, SO_2 -alkyl, SO_2 -heterocyclyl, SO_2 -aryl, SO_2NH_2 , SO_2NH -alkyl, SO_2NH -aryl, SO_2NH -heteroaryl, SO_2NH -alkyl-aryl, SO_3H , SO_3O -alkyl, SO_3O -aryl, SO_3O -alkyl-aryl, alkyl, cycloalkyl, heterocyclyl, aryl or heteroaryl, n can have the value 0, 1, 2 or 3 and the alkyl-, cycloalkyl-, heterocyclyl-, aryl-, heteroaryl-, alkyl-cycloalkyl-, alkyl-heterocyclyl-, alkyl-aryl- and alkyl-heteroaryl substituents for their part can in turn be substituted,

(II) unsubstituted or substituted heteroaryl, wherein the heteroaryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF_3 , CN, NH_2 , NH -alkyl, NH -cycloalkyl, NH -heterocyclyl, NH -aryl, NH -heteroaryl, NH -alkyl-cycloalkyl, NH -alkyl-heterocyclyl, NH -alkyl-aryl, NH -alkyl-heteroaryl, NH -alkyl- NH_2 , NH -alkyl-OH, $N(alkyl)_2$, $NHC(O)$ -alkyl, $NHC(O)$ -cycloalkyl, $NHC(O)$ -heterocyclyl, $NHC(O)$ -aryl, $NHC(O)$ -heteroaryl, $NHC(O)$ -alkyl-aryl, $NHC(O)$ -alkyl-heteroaryl, $NHSO_2$ -alkyl, $NHSO_2$ -cycloalkyl, $NHSO_2$ -heterocyclyl, $NHSO_2$ -aryl, $NHSO_2$ -heteroaryl, $NHSO_2$ -alkyl-aryl, $NHSO_2$ -alkyl-heteroaryl, NO_2 , SH, S-alkyl, S-aryl, S-heteroaryl, OH, OCF_3 , O-alkyl, O-cycloalkyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, $OC(O)$ -alkyl, $OC(O)$ -cycloalkyl, $OC(O)$ -heterocyclyl, $OC(O)$ -aryl, $OC(O)$ -heteroaryl, $OC(O)$ -alkyl-aryl, $OC(O)$ -alkyl-heteroaryl, OSO_3H , OSO_2 -alkyl, OSO_2 -cycloalkyl, OSO_2 -heterocyclyl, OSO_2 -aryl, OSO_2 -heteroaryl, OSO_2 -alkyl-aryl, OSO_2 -alkyl-heteroaryl, $OP(O)(OH)_2$, $C(O)$ -alkyl, $C(O)$ -aryl, $C(O)$ -heteroaryl, CO_2H , CO_2 -alkyl, CO_2 -cycloalkyl, CO_2 -heterocyclyl, CO_2 -aryl, CO_2 -heteroaryl, CO_2 -alkyl-cycloalkyl, CO_2 -alkyl-heterocyclyl, CO_2 -alkyl-aryl, CO_2 -alkyl-heteroaryl, $C(O)NH_2$, $C(O)NH$ -alkyl, $C(O)NH$ -cycloalkyl, $C(O)NH$ -heterocyclyl, $C(O)NH$ -aryl, $C(O)NH$ -heteroaryl, $C(O)NH$ -alkyl-cycloalkyl, $C(O)NH$ -alkyl-heterocyclyl, $C(O)NH$ -alkyl-aryl, $C(O)NH$ -alkyl-heteroaryl, $C(O)N(alkyl)_2$, $C(O)N(cycloalkyl)_2$, $C(O)N(aryl)_2$, $C(O)N(heteroaryl)_2$, SO_2NH_2 , SO_2NH -alkyl, SO_2NH -aryl, SO_2NH -heteroaryl, SO_2NH -alkyl-aryl, SO_3H , SO_3O -alkyl, SO_3O -aryl, SO_3O -alkyl-aryl, alkyl, cycloalkyl, heterocyclyl, alkyl-cycloalkyl, alkyl-heterocyclyl, alkyl-aryl, alkyl-heteroaryl, aryl or heteroaryl, and the alkyl-, cycloalkyl-, heterocyclyl-, alkyl-heterocyclyl, alkyl-aryl, alkyl-cycloalkyl, alkyl-heteroaryl, aryl- and heteroaryl substituents for their part can in turn be substituted,

and R2:

(I) unsubstituted or substituted alkyl-aryl wherein the alkyl-aryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-cycloalkyl, S-heterocyclyl, S-aryl, S-heteroaryl, =O, OH, OCF₃, O-alkyl, O-cycloalkyl, O-heterocyclyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl, OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl, CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)NH-alkyl, C(O)NH-cycloalkyl, C(O)NH-heterocyclyl, C(O)NH-aryl, C(O)NH-heteroaryl, C(O)NH-alkyl-cycloalkyl, C(O)NH-alkyl-heterocyclyl, C(O)NH-alkyl-aryl, C(O)NH-alkyl-heteroaryl, C(O)N(alkyl)₂, C(O)N(cycloalkyl)₂, C(O)N(aryl)₂, C(O)N(heteroaryl)₂, SO-alkyl, SO-aryl, SO₂-alkyl, SO₂-aryl, SO₂NH₂, SO₂NH-alkyl, SO₂NH-aryl, SO₂NH-heteroaryl, SO₂NH-alkyl-aryl, SO₃H, SO₂O-alkyl, SO₂O-aryl, SO₂O-alkyl-aryl, alkyl, cycloalkyl, heterocyclyl, aryl or heteroaryl,

(II) unsubstituted or substituted alkyl-heteroaryl wherein the alkyl-heteroaryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-cycloalkyl, S-heterocyclyl, S-aryl, S-heteroaryl, OH, OCF₃, O-alkyl, O-cycloalkyl, O-heterocyclyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl,

OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl, CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)NH-alkyl, C(O)NH-cycloalkyl, C(O)NH-heterocyclyl, C(O)NH-aryl, C(O)NH-heteroaryl, C(O)NH-alkyl-cycloalkyl, C(O)NH-alkyl-heterocyclyl, C(O)NH-alkyl-aryl, C(O)NH-alkyl-heteroaryl, C(O)N(alkyl)₂, C(O)N(cycloalkyl)₂, C(O)N(aryl)₂, C(O)N(heteroaryl)₂, SO-alkyl, SO-aryl, SO₂-alkyl, SO₂-aryl, SO₂NH₂, SO₂NH-alkyl, SO₂NH-aryl, SO₂NH-heteroaryl, SO₂NH-alkyl-aryl, SO₃H, SO₂O-alkyl, SO₂O-aryl, SO₂O-alkyl-aryl, cycloalkyl, heterocyclyl, aryl or heteroaryl;

its physiologically tolerated salts, in the form of its racemates, in the form of its pure enantiomers and/or diastereomers or in the form of mixtures of these enantiomers and/or diastereomers or in the form of its tautomers;

for the production of a medicament for the treatment or prevention of physiological and/or pathophysiological states in mammals mediated by the ras-Raf-Mek-Erk signal transduction pathway,

wherein the physiological and/or pathophysiological states are selected from the group consisting of: "malignant tumours, benign tumours, inflammatory diseases, inflammations, pain, rheumatic diseases, arthritic diseases, HIV infections, neurological or neurodegenerative diseases, rheumatism, arthritis, AIDS, ARC (AIDS related complex), Kaposi's sarcoma, tumours originating from the brain and/or nervous system and/or meninges, dementia, Alzheimer's disease, hyperproliferative diseases, psoriasis, endometriosis, scarring, benign prostatic hyperplasia (BPH), diseases of the immune system, autoimmune diseases, immunodeficiency diseases, colon tumour, gastric tumour, intestinal tumour, pulmonary tumour, pancreatic tumour, ovarian tumour, prostatic tumour, leukaemia, melanoma, hepatic tumour, renal tumour, head tumour, throat tumour, glioma, breast tumour, uterine cancer, endometrial cancer, cervico-uterine carcinoma, brain tumour, adeno-acanthoma, cancer of the bladder, gastric tumour, colorectal tumour, oesophageal cancer, gynaecological tumour, ovarian tumour, cancer of the thyroid, lymphoma, chronic leukaemia, acute leukaemia, restenosis, diabetes, diabetic nephropathy, fibrotic diseases, cystic fibrosis, malignant nephrosclerosis, thrombotic microangiopathy syndrome, organ transplant rejection, glomerulopathy, metabolic diseases, solid/fixed tumours, rheumatic arthritis, diabetic retinopathy, asthma, allergies, allergic diseases, chronic obstructive pulmonary

diseases, inflammatory bowel disease, fibrosis, atherosclerosis, heart diseases, cardiovascular diseases, diseases of the myocardium, vascular diseases, angiogenetic diseases, kidney diseases, rhinitis, Grave's disease, focal ischemia, cardiac failure, ischemia, cardiac hypertrophy, renal failure, cardiac myocytic malfunction, high blood pressure, vasoconstriction, stroke, anaphylactic shock, platelet agglutination, skeletomuscular atrophy, obesity, overweight, glucosis homeostasis, congestive cardiac insufficiency, angina, heart attack, cardiac infarction, hyperglycaemia, hypoglycaemia, hypertension".

In a second aspect, there is provided a pyridopyrazine selected from the group consisting compound 90, 91, 92,

94, 95, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, , 118, , 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133,, 135, 137, 138, , 144, 145, 146, 147, 148, 149, 150, 151, 152, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 167, 168, 169, 170, 171, 174, 175, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 188, 189, 194, 195, 196, 197, 198, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208 209 its physiologically tolerated salts, in the form of its racemates, in the form of its pure enantiomers and/or diastereomers or in the form of mixtures of these enantiomers and/or diastereomers or in the form of its tautomers.

In a third aspect, there is provided a pharmaceutical composition which comprises a pharmacologically active amount of at the least one compound as defined above, for the treatment or prophylaxis of physiological and/or pathophysiological conditions which can

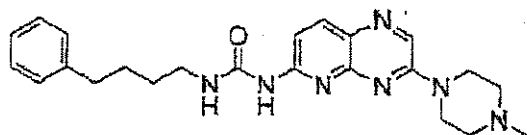
be treated by modulation of the signal transduction pathway or pathways selected from the group consisting of the PI3K-Akt signal transduction pathway and/or ras-Raf-Mek-Erk signal transduction pathway, wherein the physiological and/or pathophysiological states are selected from the group consisting of: "malignant tumours, benign tumours, inflammatory diseases, inflammations, pain, rheumatic diseases, arthritic diseases, HIV infections, neurological or neurodegenerative diseases, rheumatism, arthritis, AIDS, ARC (AIDS related complex), Kaposi's sarcoma, tumours originating from the brain and/or nervous system and/or meninges, dementia, Alzheimer's disease, hyperproliferative diseases, psoriasis, endometriosis, scarring, benign prostatic hyperplasia (BPH), diseases of the immune system, autoimmune diseases, immunodeficiency diseases, colon tumour, gastric tumour, intestinal tumour, pulmonary tumour, pancreatic tumour, ovarian tumour, prostatic tumour, leukaemia, melanoma, hepatic tumour, renal tumour, head tumour, throat tumour, glioma, breast tumour, uterine cancer, endometrial cancer, cervico-uterine carcinoma, brain tumour, adeno-acanthoma, cancer of the bladder, gastric tumour, colorectal tumour, oesophageal cancer, gynaecological tumour, ovarian tumour, cancer of the thyroid, lymphoma, chronic leukaemia, acute leukaemia, restenosis, diabetes, diabetic nephropathy, fibrotic diseases, cystic fibrosis, malignant nephrosclerosis, thrombotic microangiopathy syndrome, organ transplant rejection, glomerulopathy, metabolic diseases, solid/fixed tumours, rheumatic arthritis, diabetic retinopathy, asthma, allergies, allergic diseases, chronic obstructive pulmonary diseases, inflammatory bowel disease, fibrosis, atherosclerosis, heart diseases, cardiovascular diseases, diseases of the myocardium, vascular diseases, angiogenetic diseases, kidney diseases, rhinitis, Grave's disease, focal ischemia, cardiac failure, ischemia, cardiac hypertrophy, renal failure, cardiac myocytic malfunction, high blood pressure, vasoconstriction, stroke, anaphylactic shock, platelet agglutination, skeletal muscular atrophy, obesity, overweight, glucose homeostasis, congestive cardiac insufficiency, angina, heart attack, cardiac infarction, hyperglycaemia, hypoglycaemia, hypertension".

In a fourth aspect, there is provided a pharmaceutical composition comprising a pharmacologically active quantity of at least one compound as defined above.

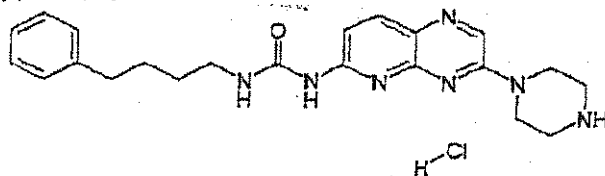
In a fifth aspect, there is provided a kit comprising a pharmaceutically active quantity of at least one compound as defined above and a pharmacologically active quantity of at least one further pharmacologically active substance as defined above.

In a sixth aspect, there is provided the use of a compound selected from the group consisting of

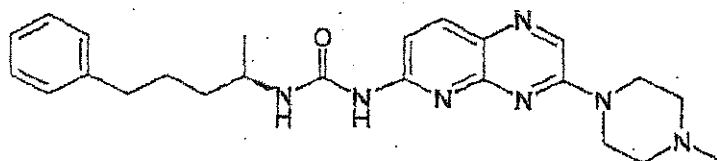
Compound 93: 1-[3-(4-Methyl-piperazin-1-yl)-pyrido[2,3-b]pyrazin-8-yl]-3-(4-phenyl-butyl)-urea



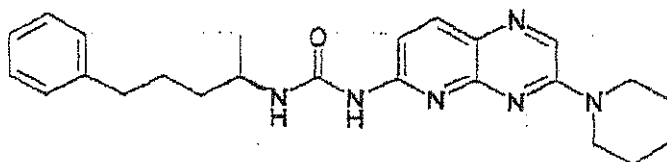
Compound 96: 1-(4-Phenyl-butyl)-3-(3-piperazin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea; hydrochloride



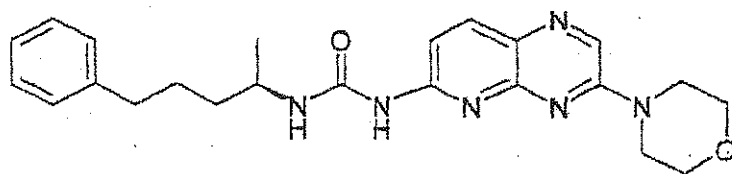
Compound 153: 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-(4-methyl-piperazin-1-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



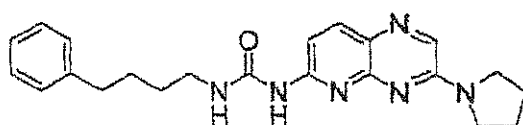
Compound 154: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-piperidin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



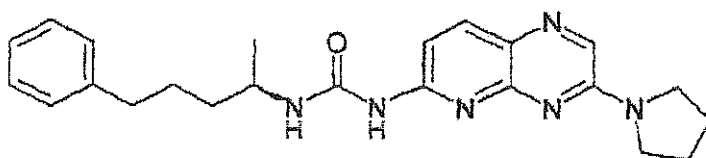
Compound 166: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-morpholin-4-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



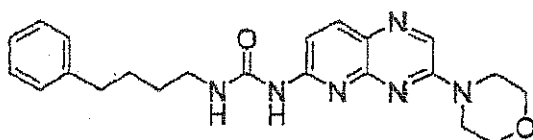
Compound 172: 1-(4-Phenyl-butyl)-3-(3-pyrrolidin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



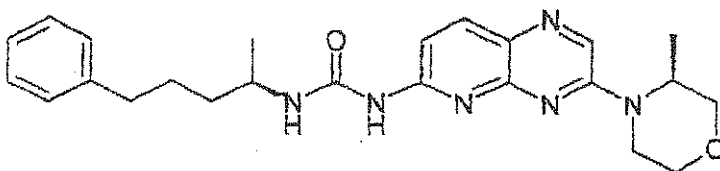
Compound 173: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-pyrrolidin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



Compound 176: 1-(3-Morpholin-4-yl-pyrido[2,3-b]pyrazin-6-yl)-3-(4-phenyl-butyl)-urea



Compound 187: 1-[3-((S)-3-Methyl-morpholin-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



its physiologically tolerated salts, in the form of its racemates, in the form of its pure enantiomers and/or diastereomers or in the form of mixtures of these enantiomers and/or diastereomers or in the form of its tautomers;

for the production of a medicament for the treatment or prevention of physiological and/or pathophysiological states in mammals mediated by the ras-Raf-Mek-Erk signal transduction pathway,

wherein the physiological and/or pathophysiological states are selected from the group consisting of: "malignant tumours, benign tumours, inflammatory diseases, inflammations, pain, rheumatic diseases, arthritic diseases, HIV infections, neurological or neurodegenerative diseases, rheumatism, arthritis, AIDS, ARC (AIDS related complex), Kaposi's sarcoma, tumours originating from the brain and/or nervous system and/or meninges, dementia, Alzheimer's disease, hyperproliferative diseases, psoriasis, endometriosis, scarring, benign prostatic hyperplasia (BPH), diseases of the immune system, autoimmune diseases, immunodeficiency diseases, colon tumour, gastric tumour, intestinal tumour, pulmonary tumour, pancreatic tumour, ovarian tumour, prostatic tumour, leukaemia, melanoma, hepatic tumour, renal tumour, head tumour, throat tumour, glioma, breast tumour, uterine cancer, endometrial cancer, cervico-uterine carcinoma, brain tumour, adeno-acanthoma, cancer of the bladder, gastric tumour, colorectal tumour, oesophageal cancer, gynaecological tumour, ovarian tumour, cancer of the thyroid, lymphoma, chronic leukaemia, acute leukaemia, restenosis, diabetes, diabetic nephropathy, fibrotic diseases, cystic fibrosis, malignant nephrosclerosis, thrombotic microangiopathy syndrome, organ transplant rejection, glomerulopathy, metabolic diseases, solid/fixed tumours, rheumatic arthritis, diabetic retinopathy, asthma, allergies, allergic diseases, chronic obstructive pulmonary diseases, inflammatory bowel disease, fibrosis, atherosclerosis, heart diseases, cardiovascular diseases, diseases of the myocardium, vascular diseases, angiogenic diseases, kidney diseases, rhinitis, Grave's disease, focal ischemia, cardiac failure, ischemia, cardiac hypertrophy, renal failure, cardiac myocytic malfunction, high blood pressure, vasoconstriction, stroke, anaphylactic shock, platelet agglutination, skeletomuscular atrophy, obesity, overweight, glucosis homeostasis, congestive cardiac insufficiency, angina, heart attack, cardiac infarction, hyperglycaemia, hypoglycaemia, hypertension".

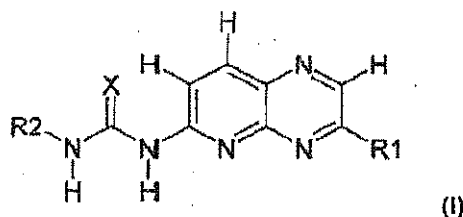
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Amended Claims

1. Use of a compound according the general formula (I)

5



wherein the substituents R1, R2, X have the following meaning:

10 X is O

R1

- (I) substituted aryl, wherein the aryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, NH-alkyl-NH₂, NH-alkyl-OH, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-aryl, S-heteroaryl, OH, OCF₃, O-alkyl, O-cycloalkyl, O-heterocyclyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, O-alkyl-OH, O-(CH₂)_n-O, O-(CH₂-CH₂-O)_n-CH₂-CH₂-OH, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl, OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OC(O)-NH-Alkyl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, O-CO₂-alkyl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl, CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)-NH-alkyl, C(O)-NH-cycloalkyl, C(O)-NH-heterocyclyl, C(O)-NH-aryl, C(O)-NH-heteroaryl, C(O)-NH-alkyl-cycloalkyl, C(O)-NH-alkyl-heterocyclyl, C(O)-NH-alkyl-aryl, C(O)-NH-

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alkyl-heteroaryl, C(O)N(alkyl)₂, C(O)N(cycloalkyl)₂, C(O)N(aryl)₂, C(O)N(heteroaryl)₂, SO-alkyl, SO-aryl, SO₂-alkyl, SO₂-heterocyclyl; SO₂-aryl, SO₂NH₂, SO₂NH-alkyl, SO₂NH-aryl, SO₂NH-heteroaryl, SO₂NH-alkyl-aryl, SO₃H, SO₂O-alkyl, SO₂O-aryl, SO₂O-alkyl-aryl, alkyl, cycloalkyl, heterocyclyl, aryl or
 5 heteroaryl, n can have the value 0, 1, 2 or 3 and the alkyl-, cycloalkyl-, heterocyclyl-, aryl-, heteroaryl-, alkyl-cycloalkyl-, alkyl-heterocyclyl-, alkyl-aryl- and alkyl-heteroaryl substituents for their part can in turn be substituted,

(II) unsubstituted or substituted heteroaryl, wherein the heteroaryl group can be
 10 substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, NH-alkyl-NH₂, NH-alkyl-OH, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-aryl, S-heteroaryl, OH, OCF₃, O-alkyl, O-cycloalkyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl, OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl, CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)NH-alkyl, C(O)NH-cycloalkyl, C(O)NH-heterocyclyl, C(O)NH-aryl, C(O)NH-heteroaryl, C(O)NH-alkyl-cycloalkyl, C(O)NH-alkyl-heterocyclyl, C(O)NH-alkyl-aryl, C(O)NH-alkyl-heteroaryl, C(O)N(alkyl)₂, C(O)N(cycloalkyl)₂, C(O)N(aryl)₂, C(O)N(heteroaryl)₂, SO₂NH₂, SO₂NH-alkyl, SO₂NH-aryl, SO₂NH-heteroaryl, SO₂NH-alkyl-aryl, SO₃H, SO₂O-alkyl, SO₂O-aryl, SO₂O-alkyl-aryl, alkyl, cycloalkyl, heterocyclyl, alkyl-cycloalkyl, alkyl-heterocyclyl, alkyl-aryl, alkyl-heteroaryl, aryl or heteroaryl, and the alkyl-, cycloalkyl-, heterocyclyl-, alkyl-heterocyclyl, alkyl-aryl, alkyl-cycloalkyl, alkyl-heteroaryl, aryl- and heteroaryl substituents for their part can in turn be substituted,

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and R2:

- (I) unsubstituted or substituted alkyl-aryl wherein the alkyl-aryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-cycloalkyl, S-heterocyclyl, S-aryl, S-heteroaryl, =O, OH, OCF₃, O-alkyl, O-cycloalkyl, O-heterocyclyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl, OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl, CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)NH-alkyl, C(O)NH-cycloalkyl, C(O)NH-heterocyclyl, C(O)NH-aryl, C(O)NH-heteroaryl, C(O)NH-alkyl-cycloalkyl, C(O)NH-alkyl-heterocyclyl, C(O)NH-alkyl-aryl, C(O)NH-alkyl-heteroaryl, C(O)N(alkyl)₂, C(O)N(cycloalkyl)₂, C(O)N(aryl)₂, C(O)N(heteroaryl)₂, SO-alkyl, SO-aryl, SO₂-alkyl, SO₂-aryl, SO₂NH₂, SO₂NH-alkyl, SO₂NH-aryl, SO₂NH-heteroaryl, SO₂NH-alkyl-aryl, SO₃H, SO₂O-alkyl, SO₂O-aryl, SO₂O-alkyl-aryl, alkyl, cycloalkyl, heterocyclyl, aryl or heteroaryl,
- (II) unsubstituted or substituted alkyl-heteroaryl wherein the alkyl-heteroaryl group can be substituted with one or more, the same or different F, Cl, Br, I, CF₃, CN, NH₂, NH-alkyl, NH-cycloalkyl, NH-heterocyclyl, NH-aryl, NH-heteroaryl, NH-alkyl-cycloalkyl, NH-alkyl-heterocyclyl, NH-alkyl-aryl, NH-alkyl-heteroaryl, N(alkyl)₂, NHC(O)-alkyl, NHC(O)-cycloalkyl, NHC(O)-heterocyclyl, NHC(O)-aryl, NHC(O)-heteroaryl, NHC(O)-alkyl-aryl, NHC(O)-alkyl-heteroaryl, NHSO₂-alkyl, NHSO₂-cycloalkyl, NHSO₂-heterocyclyl, NHSO₂-aryl, NHSO₂-heteroaryl, NHSO₂-alkyl-aryl, NHSO₂-alkyl-heteroaryl, NO₂, SH, S-alkyl, S-cycloalkyl, S-heterocyclyl, S-aryl, S-heteroaryl, OH, OCF₃, O-alkyl, O-cycloalkyl, O-heterocyclyl, O-aryl, O-heteroaryl, O-alkyl-cycloalkyl, O-alkyl-heterocyclyl, O-alkyl-aryl, O-alkyl-heteroaryl, OC(O)-alkyl, OC(O)-cycloalkyl, OC(O)-heterocyclyl, OC(O)-aryl, OC(O)-heteroaryl,

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- OC(O)-alkyl-aryl, OC(O)-alkyl-heteroaryl, OSO₃H, OSO₂-alkyl, OSO₂-cycloalkyl, OSO₂-heterocyclyl, OSO₂-aryl, OSO₂-heteroaryl, OSO₂-alkyl-aryl, OSO₂-alkyl-heteroaryl, OP(O)(OH)₂, C(O)-alkyl, C(O)-aryl, C(O)-heteroaryl, CO₂H, CO₂-alkyl, CO₂-cycloalkyl, CO₂-heterocyclyl, CO₂-aryl, CO₂-heteroaryl, CO₂-alkyl-cycloalkyl,
- 5 CO₂-alkyl-heterocyclyl, CO₂-alkyl-aryl, CO₂-alkyl-heteroaryl, C(O)-NH₂, C(O)NH-alkyl, C(O)NH-cycloalkyl, C(O)NH-heterocyclyl, C(O)NH-aryl, C(O)NH-heteroaryl, C(O)NH-alkyl-cycloalkyl, C(O)NH-alkyl-heterocyclyl, C(O)NH-alkyl-aryl, C(O)NH-alkyl-heteroaryl, C(O)N(alkyl)₂, C(O)N(cycloalkyl)₂, C(O)N(aryl)₂, C(O)N(heteroaryl)₂, SO-alkyl, SO-aryl, SO₂-alkyl, SO₂-aryl, SO₂NH₂, SO₂NH-alkyl,
- 10 SO₂NH-aryl, SO₂NH-heteroaryl, SO₂NH-alkyl-aryl, SO₃H, SO₂O-alkyl, SO₂O-aryl, SO₂O-alkyl-aryl, cycloalkyl, heterocyclyl, aryl or heteroaryl;
- its physiologically tolerated salts, in the form of its racemates, in the form of its pure enantiomers and/or diastereomers or in the form of mixtures of these enantiomers and/or diastereomers or in the form of its tautomers;
- 15 for the production of a medicament for the treatment or prevention of physiological and/or pathophysiological states in mammals mediated by the ras-Raf-Mek-Erk signal transduction pathway,
- wherein the physiological and/or pathophysiological states are selected from the group consisting of: "malignant tumours, benign tumours, inflammatory diseases,
- 20 inflammations, pain, rheumatic diseases, arthritic diseases, HIV infections, neurological or neurodegenerative diseases, rheumatism, arthritis, AIDS, ARC (AIDS related complex), Kaposi's sarcoma, tumours originating from the brain and/or nervous system and/or meninges, dementia, Alzheimer's disease, hyperproliferative diseases, psoriasis, endometriosis, scarring, benign
- 25 prostatohyperplasia (BPH), diseases of the immune system, autoimmune diseases, immunodeficiency diseases, colon tumour, gastric tumour, intestinal tumour, pulmonary tumour, pancreatic tumour, ovarian tumour, prostatic tumour, leukaemia, melanoma, hepatic tumour, renal tumour, head tumour, throat tumour, glioma, breast tumour, uterine cancer, endometrial cancer, cervico-uterine
- 30 carcinoma, brain tumour, adeno-acanthoma, cancer of the bladder, gastric tumour, colorectal tumour, oesophageal cancer, gynaecological tumour, ovarian tumour, cancer of the thyroid, lymphoma, chronic leukaemia, acute leukaemia, restenosis, diabetes, diabetic nephropathy, fibrotic diseases, cystic fibrosis, malignant nephrosclerosis, thrombotic microangiopathy syndrome, organ transplant rejection,
- 35 glomerulopathy, metabolic diseases, solid/fixed tumours, rheumatic arthritis, diabetic retinopathy, asthma, allergies, allergic diseases, chronic obstructive pulmonary

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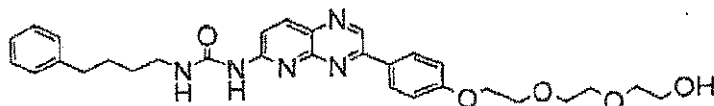
diseases, inflammatory bowel disease, fibrosis, atherosclerosis, heart diseases, cardiovascular diseases, diseases of the myocardium, vascular diseases, angiogenic diseases, kidney diseases, rhinitis, Grave's disease, focal ischemia, cardiac failure, ischemia, cardiac hypertrophy, renal failure, cardiac myocytic malfunction, high blood pressure, vasoconstriction, stroke, anaphylactic shock, platelet agglutination, skeletomuscular atrophy, obesity, overweight, glucosis homeostasis, congestive cardiac insufficiency, angina, heart attack, cardiac infarction, hyperglycaemia, hypoglycaemia, hypertension".

- 10 2. Use according to Claim 1, wherein the alkyl group is selected from the group consisting of methyl, ethyl, n-propyl, 2-propyl, n-butyl, sec.-butyl, tert.-butyl, n-pentyl, iso-pentyl, neo-pentyl, n-hexyl, 2-hexyl, n-octyl, ethylenyl (vinyl), ethynyl, propenyl ($-\text{CH}_2\text{CH}=\text{CH}_2$; $-\text{CH}=\text{CH}-\text{CH}_3$, $-\text{C}(\text{=CH}_2)-\text{CH}_3$), propinyl ($-\text{CH}_2-\text{C}\equiv\text{CH}$, $-\text{C}\equiv\text{C}-\text{CH}_3$), butenyl, butinyl, pentenyl, pentinyl, hexenyl, hexinyl, heptenyl, heptinyl, octenyl, octinyl.
- 15
3. Use according to any one of Claims 1 to 2, wherein the heterocyclyl group is selected from the group consisting of tetrahydrofuryl, tetrahydropyryl, pyrrolidinyl, piperidinyl, piperazinyl, morpholinyl.
- 20
4. Use according to any one of Claims 1 to 3, wherein the heteroaryl group is selected from the group consisting of pyrrolyl, furyl, thienyl, thiazolyl, oxazolyl, isoxazolyl, pyrazolyl, imidazolyl, pyridinyl, pyrimidinyl, pyridazinyl, pyrazinyl, phthalazinyl, indolyl, indazolyl, indoliziny, benzimidazolyl, quinolinyl, isoquinolinyl, quinoxaliny, quinazoliny, carbazolyl, phenazinyl, phenothiazinyl, acridinyl.
- 25
5. Use according to any one of Claims 1 to 4, wherein the compound is selected from the group consisting of
- 30

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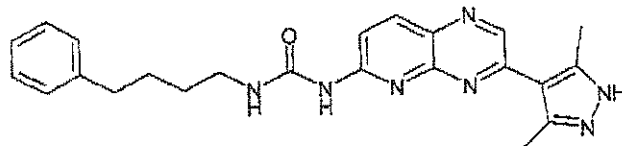
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Compound 90: 1-[3-(4-{2-[2-(2-Hydroxy-ethoxy)-ethoxy]-ethoxy}-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



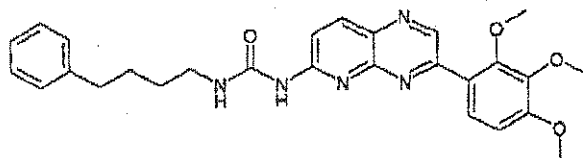
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Compound 91: 1-[3-(3,5-Dimethyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



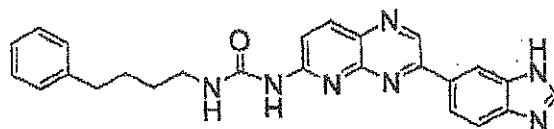
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Compound 92: 1-(4-Phenyl-butyl)-3-[3-(2,3,4-trimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-urea



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Compound 94: 1-[3-(3H-Benzoimidazol-5-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



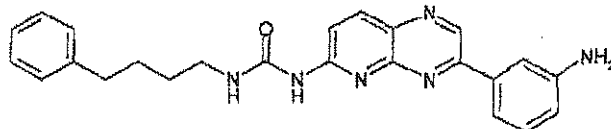
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Compound 95: 1-[3-(3-Amino-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

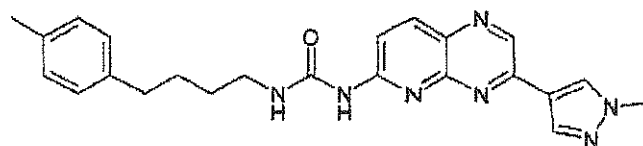
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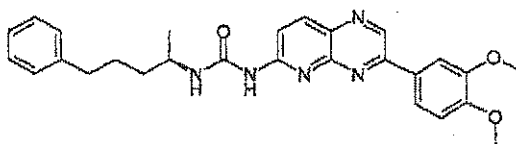


Compound 97: 1-[3-(1-Methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-p-tolyl-butyl)-urea

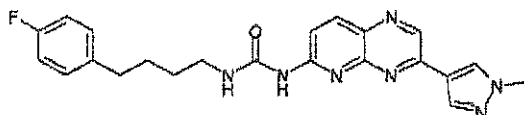


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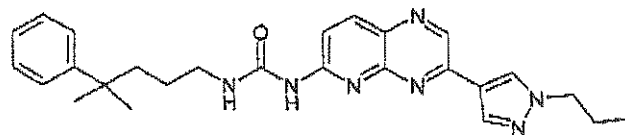
Compound 98: 1-[3-(3,4-Dimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



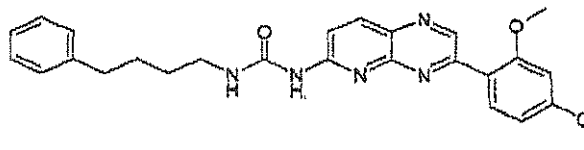
Compound 99: 1-[4-(4-Fluoro-phenyl)-butyl]-3-[3-(1-methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



Compound 100: 1-(4-Methyl-4-phenyl-pentyl)-3-[3-(1-propyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



Compound 101: 1-[3-(2,4-Dimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

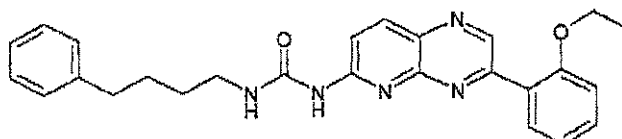


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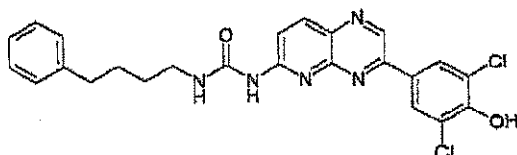
116~~8~~

Compound 102: 1-[3-(2-Ethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



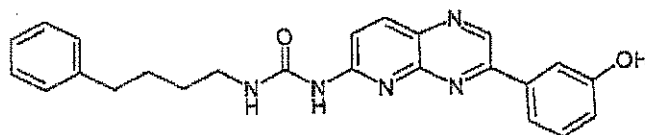
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Compound 103: 1-[3-(3,5-Dichloro-4-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



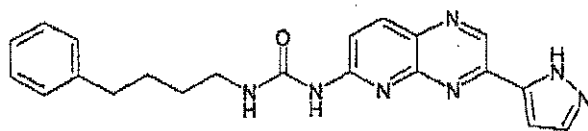
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Compound 104: 1-[3-(3-Hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



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Compound 105: 1-(4-Phenyl-butyl)-3-[3-(2H-pyrazol-3-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



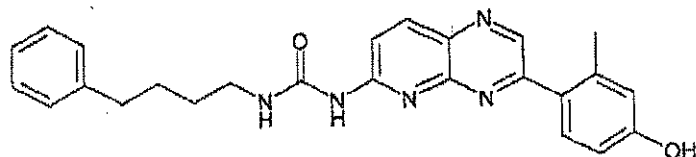
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Compound 106: 1-[3-(4-Hydroxy-2-methyl-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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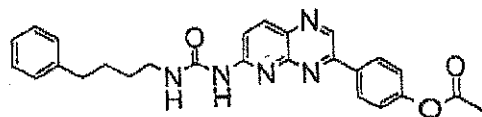
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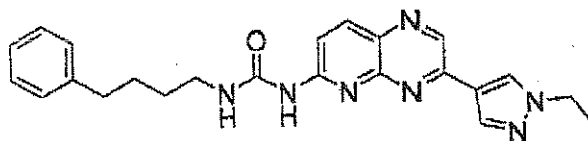
Compound 107: Acetic acid 4-(6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl)-phenyl ester

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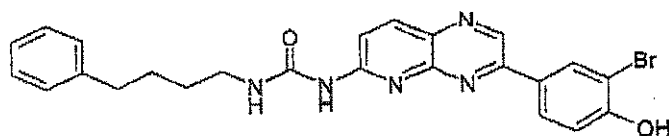
Compound 108: 1-[3-(1-Ethyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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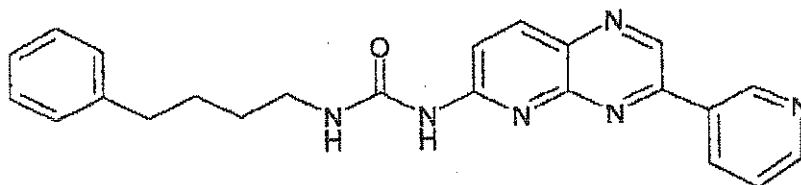
Compound 109: 1-[3-(3-Bromo-4-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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Compound 110: 1-(4-Phenyl-butyl)-3-(3-pyridin-3-yl-pyrido[2,3-b]pyrazin-6-yl)-urea

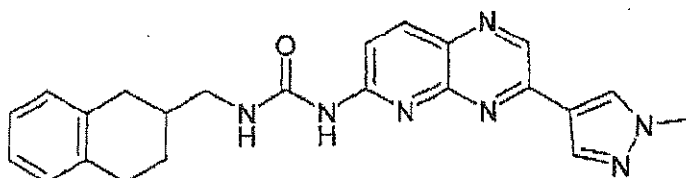
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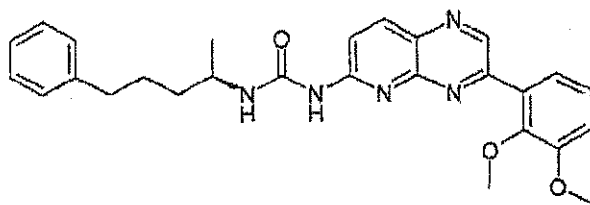
118~~10~~

Compound 111: 1-[3-(1-Methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(1,2,3,4-tetrahydro-naphthalen-2-ylmethyl)-urea



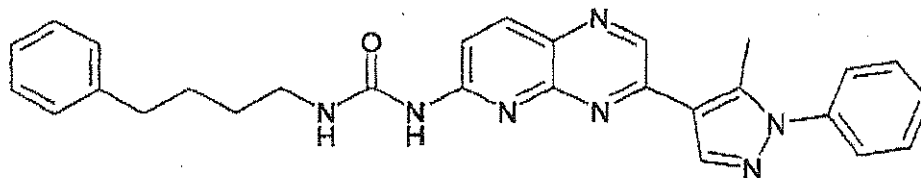
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Compound 112: 1-[3-(2,3-Dimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



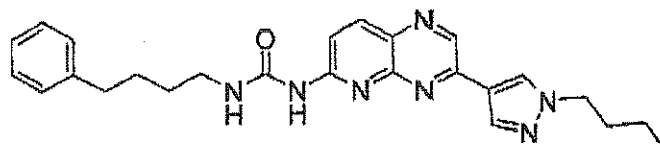
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Compound 113: 1-[3-(5-Methyl-1-phenyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



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Compound 114: 1-[3-(1-Butyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

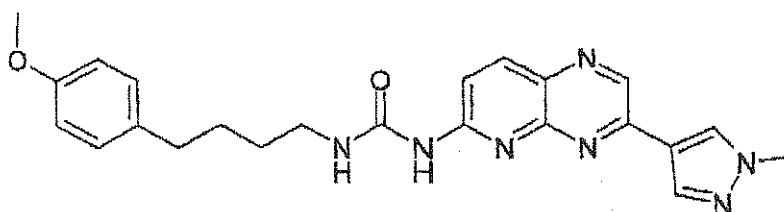


Compound 115: 1-[4-(4-Methoxy-phenyl)-butyl]-3-[3-(1-methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea

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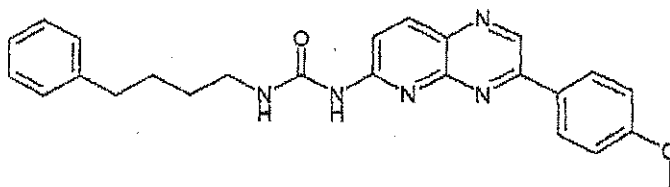
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-11-



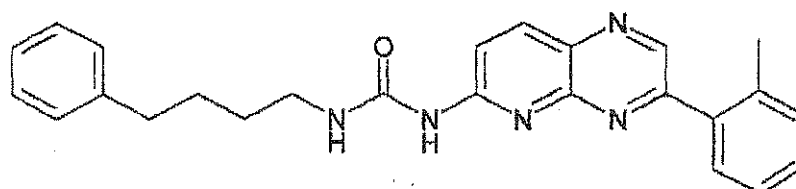
Compound 118: 1-[3-(4-Methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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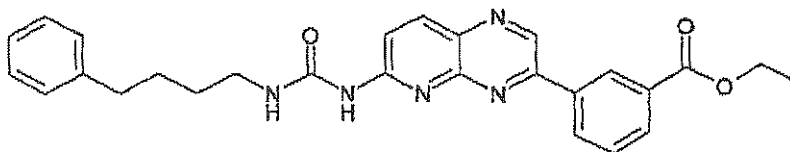
Compound 120: 1-(4-Phenyl-butyl)-3-(3-o-tolyl-pyrido[2,3-b]pyrazin-6-yl)-urea

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Compound 121: 3-{6-[3-(4-Phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-benzoic acid ethyl ester

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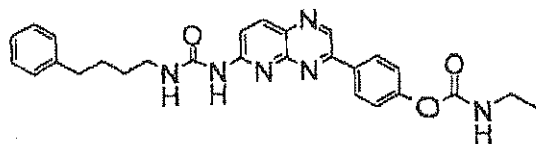


Compound 122: Ethyl-carbamic acid 4-{6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-phenyl ester

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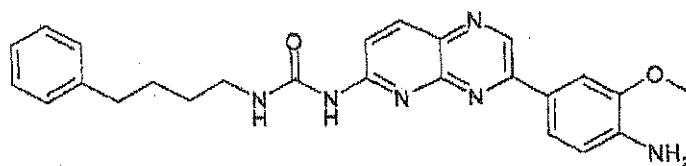
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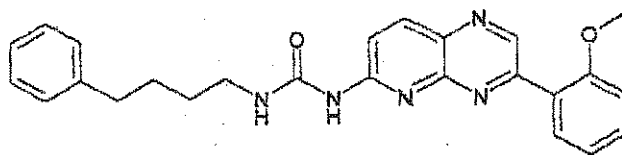
Compound 123: 1-[3-(4-Amino-3-methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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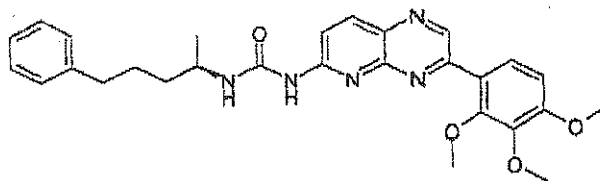
Compound 124: 1-[3-(2-Methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

10



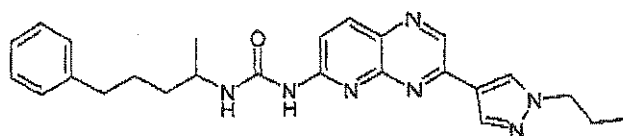
Compound 125: 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-(2,3,4-trimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-urea

15



Compound 126: 1-(1-Methyl-4-phenyl-butyl)-3-[3-(1-propyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea

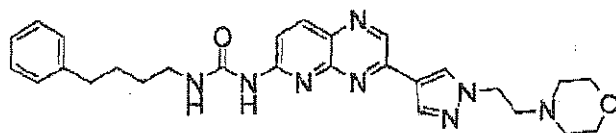
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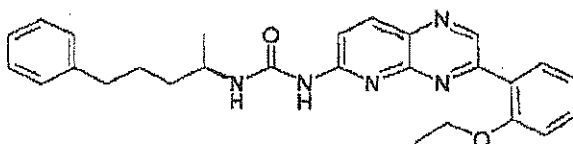
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121~~13~~

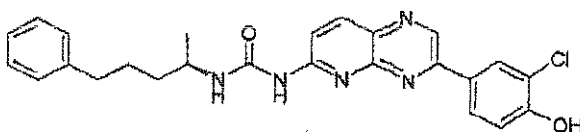
Compound 127: 1-[3-[1-(2-Morpholin-4-yl-ethyl)-1H-pyrazol-4-yl]-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



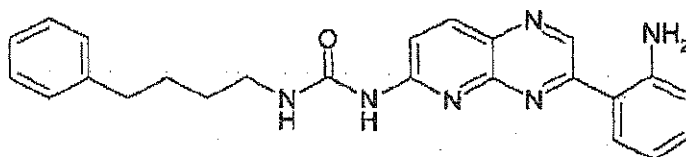
5 **Compound 128:** 1-[3-(2-Ethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



10 **Compound 129:** 1-[3-(3-Chloro-4-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



15 **Compound 130:** 1-[3-(2-Amino-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

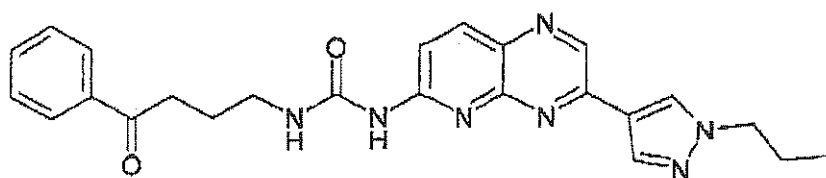


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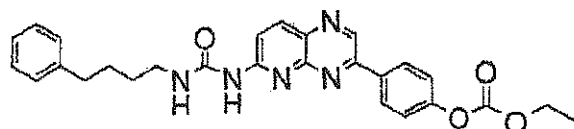
-14-

Compound 131: 1-(4-Oxo-4-phenyl-butyl)-3-[3-(1-propyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



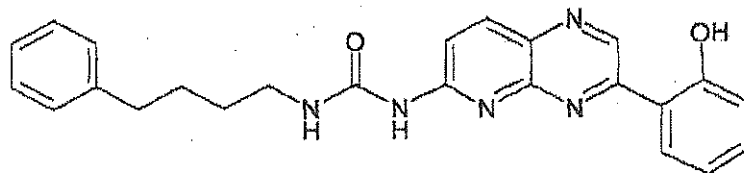
5

Compound 132: Carbonic acid ethyl ester 4-{6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-phenyl ester



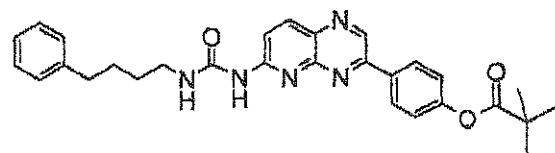
10

Compound 133: 1-[3-(2-Hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



15

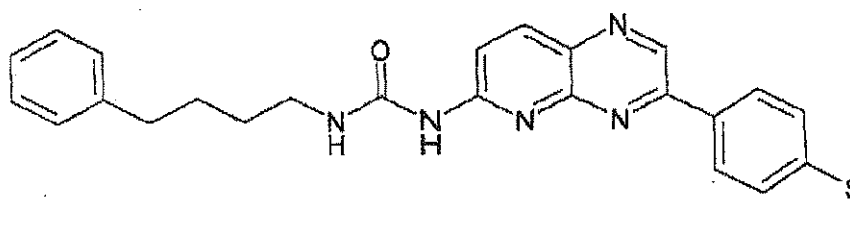
Compound 135: 2,2-Dimethyl-propionic acid 4-{6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-phenyl ester



20

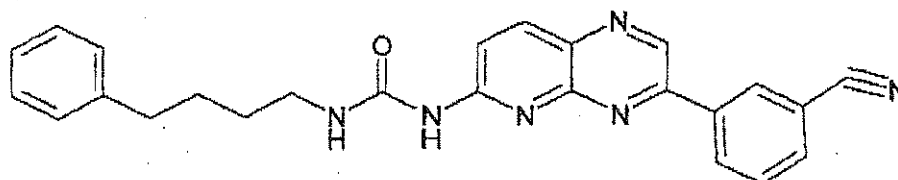
Compound 137: 1-[3-(4-Methylsulfanyl-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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123~~15~~

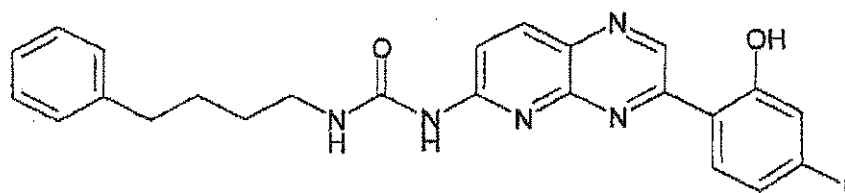
Compound 138: 1-[3-(3-Cyano-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

5



Compound 144: 1-[3-(4-Fluoro-2-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

10

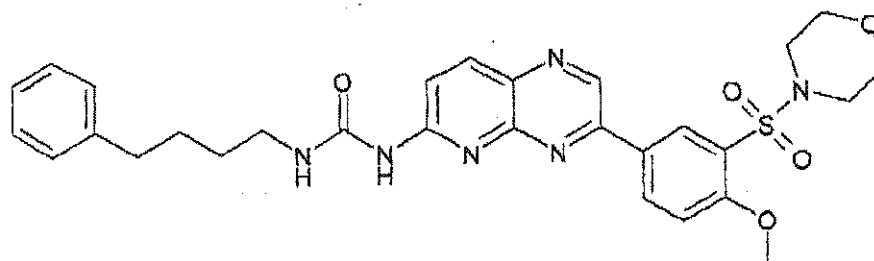


Compound 145: 1-[3-[4-Methoxy-3-(morpholine-4-sulfonyl)-phenyl]-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

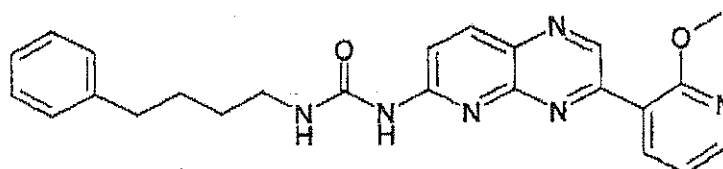
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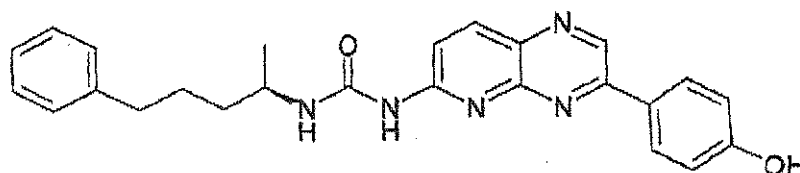
~~16~~

Compound 146: 1-[3-(2-Methoxy-pyridin-3-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



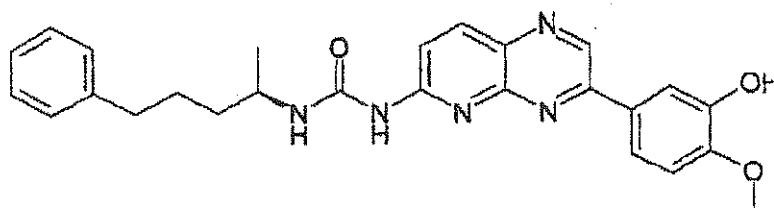
5

Compound 147: 1-[3-(4-Hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



10

Compound 148: 1-[3-(3-Hydroxy-4-methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea

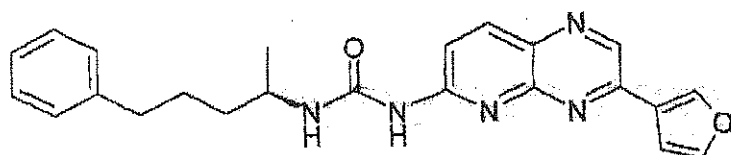


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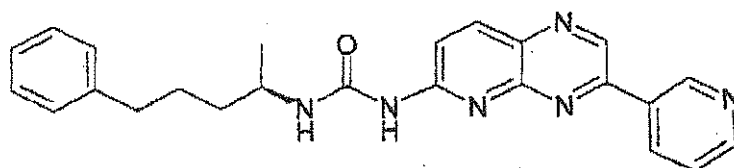
Compound 149: 1-[3-(Furan-3-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea

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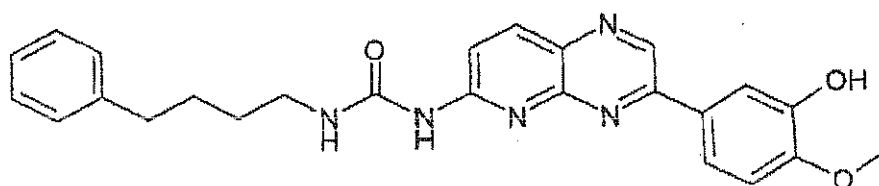
~~17~~

Compound 150: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-pyridin-3-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



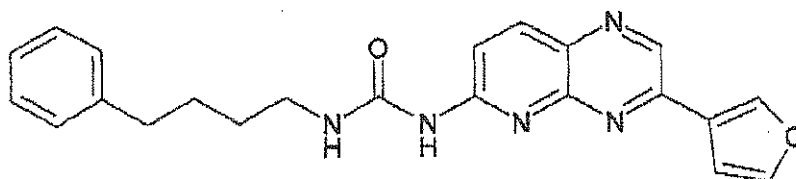
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Compound 151: 1-[3-(3-Hydroxy-4-methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



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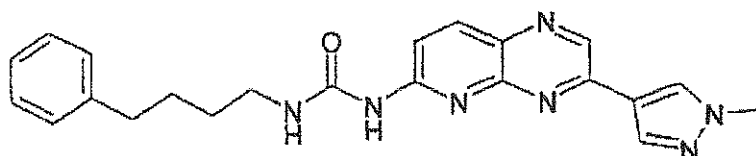
Compound 152: 1-(3-Furan-3-yl-pyrido[2,3-b]pyrazin-6-yl)-3-(4-phenyl-butyl)-urea



15

Compound 155: 1-[3-(1-Methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

20

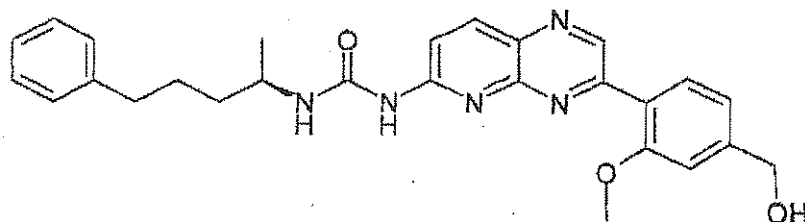


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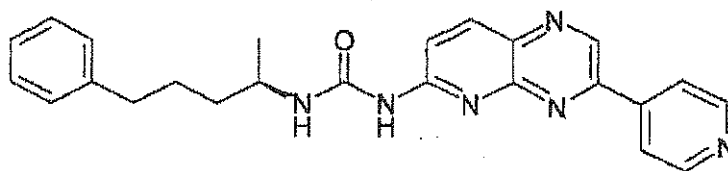
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-18-

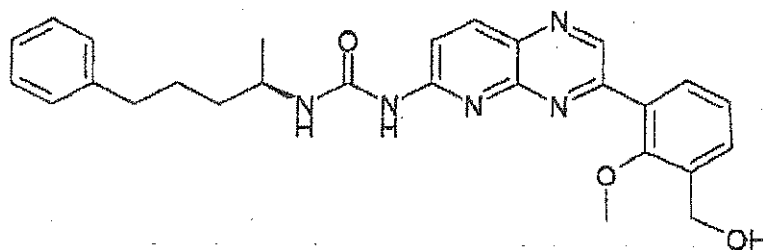
Compound 156: 1-[3-(4-Hydroxymethyl-2-methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



5 **Compound 157:** 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-pyridin-4-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



10 **Compound 158:** 1-[3-(3-Hydroxymethyl-2-methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea

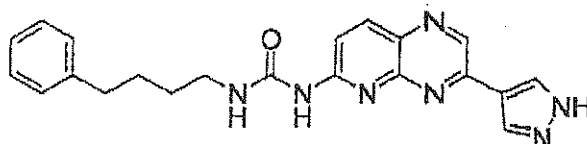


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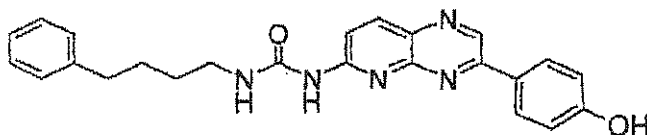
~~48~~

Compound 159: 1-(4-Phenyl-butyl)-3-[3-(1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



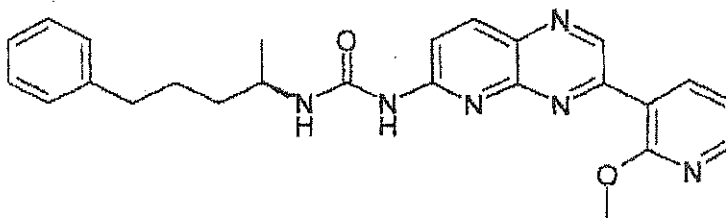
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Compound 160: 1-[3-(4-Hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

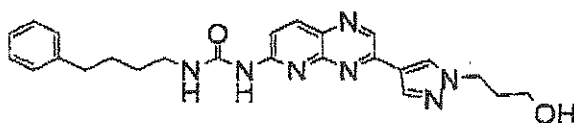


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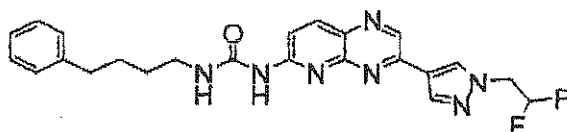
Compound 161: 1-[3-(2-Methoxy-pyridin-3-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



15 Compound 162: 1-[3-[1-(3-Hydroxy-propyl)-1H-pyrazol-4-yl]-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



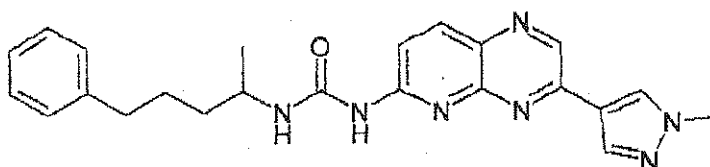
20 Compound 163: 1-[3-[1-(2,2-Difluoro-ethyl)-1H-pyrrol-3-yl]-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



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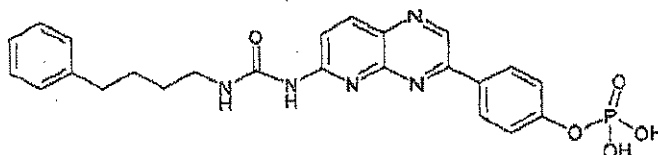
128~~20~~

Compound 164: 1-(1-Methyl-4-phenyl-butyl)-3-[3-(1-methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea

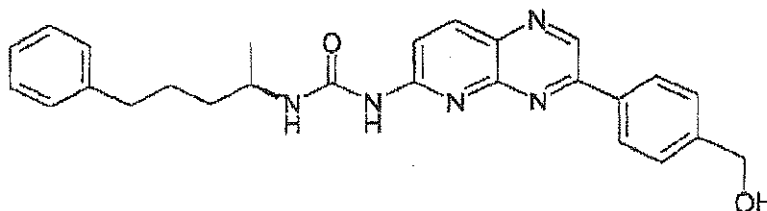


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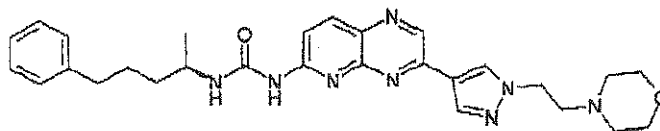
Compound 165: Phosphoric acid mono-(4-{6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-phenyl) ester



10 **Compound 167:** 1-[3-(4-Hydroxymethyl-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



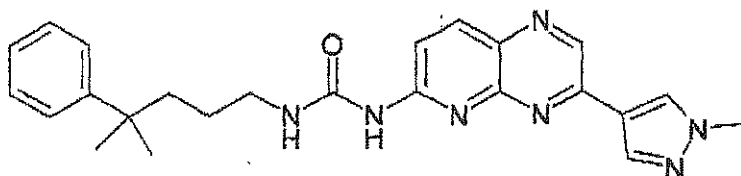
15 **Compound 168:** 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-[1-(2-morpholin-4-yl-ethyl)-1H-pyrazol-4-yl]-pyrido[2,3-b]pyrazin-6-yl]-urea



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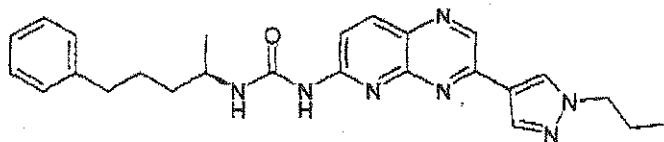
129~~21~~

Compound 169: 1-(4-Methyl-4-phenyl-pentyl)-3-[3-(1-methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



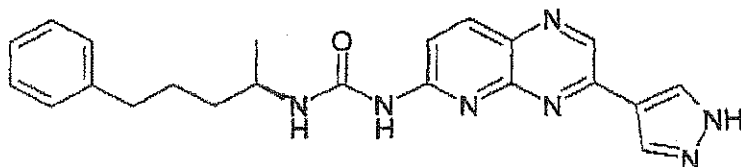
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Compound 170: 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-(1-propyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



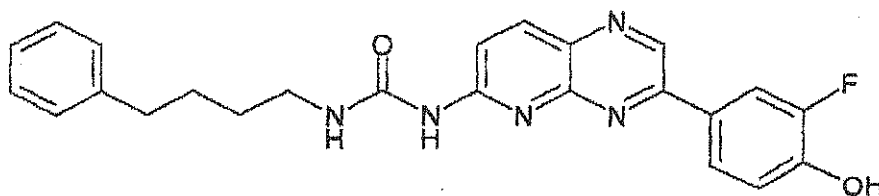
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Compound 171: 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-(1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



15

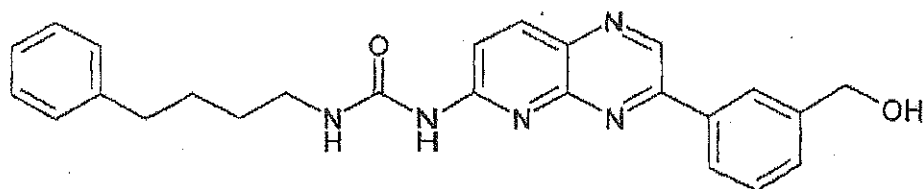
Compound 174: 1-[3-(3-Fluoro-4-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



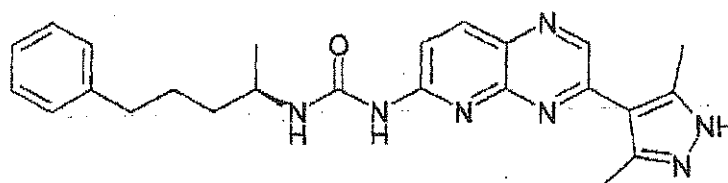
20

Compound 175: 1-[3-(3-Hydroxymethyl-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

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130~~22~~**Compound 177:** 1-[3-(3,5-Dimethyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-

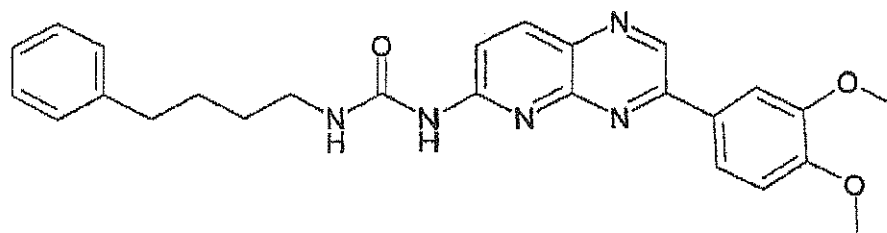
5 ((R)-1-methyl-4-phenyl-butyl)-urea



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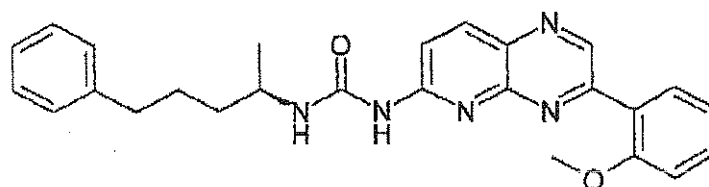
131~~-23-~~

Compound 178: 1-[3-(3,4-Dimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



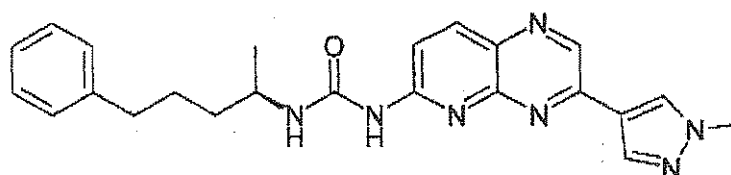
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Compound 179: 1-[3-(2-Methoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



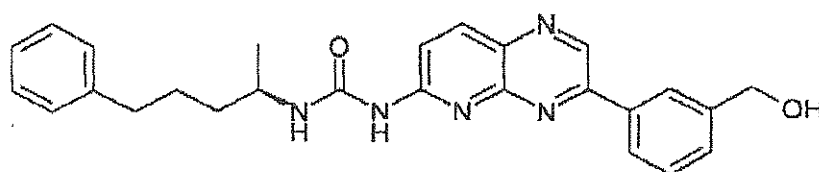
10

Compound 180: 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-(1-methyl-1H-pyrazol-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



15

Compound 181: 1-[3-(3-Hydroxymethyl-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea

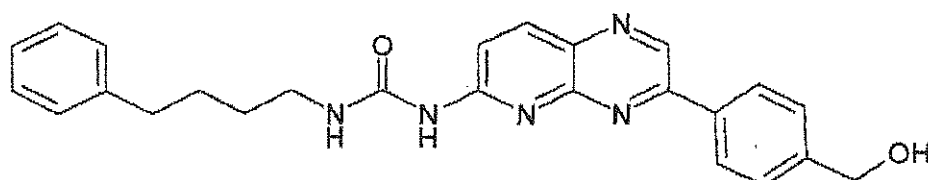


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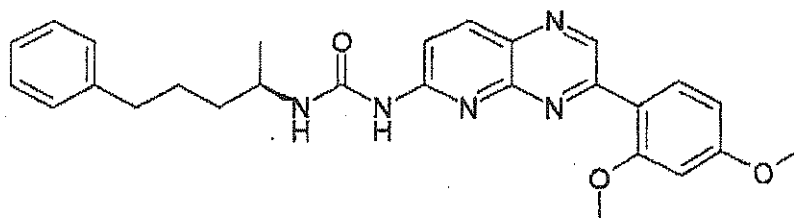
-24-

Compound 182: 1-[3-(4-Hydroxymethyl-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

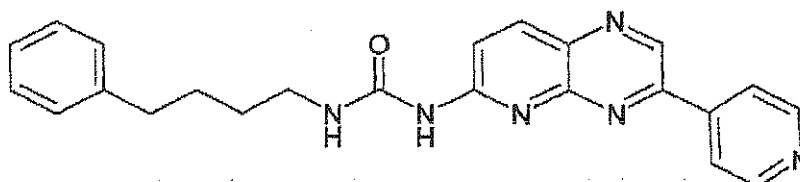


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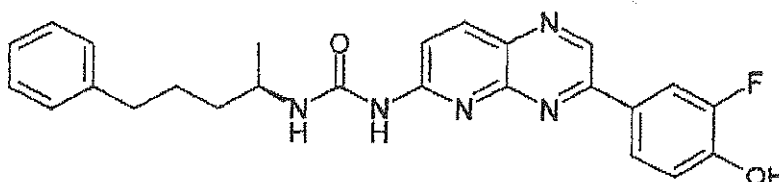
Compound 183: 1-[3-(2,4-Dimethoxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



10 **Compound 184:** 1-(4-Phenyl-butyl)-3-(3-pyridin-4-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



15 **Compound 185:** 1-[3-(3-Fluoro-4-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea

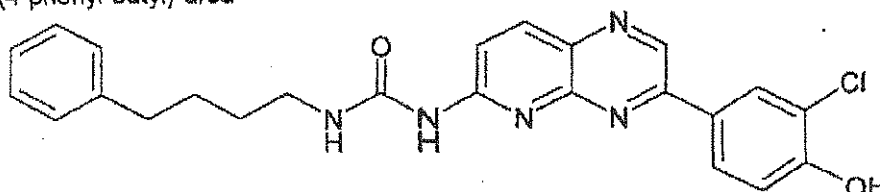


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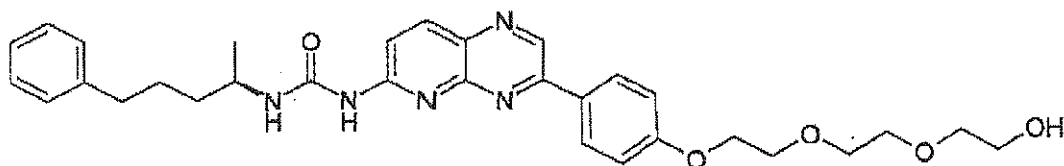
133

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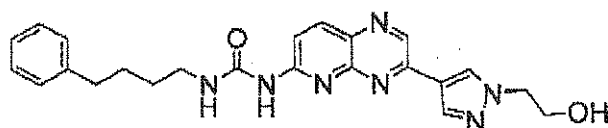
Compound 186: 1-[3-(3-Chloro-4-hydroxy-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



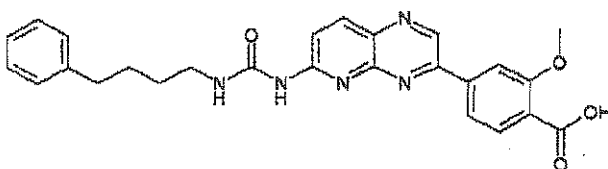
Compound 188: 1-[3-(4-{2-[2-(2-Hydroxy-ethoxy)-ethoxy]-ethoxy}-phenyl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



Compound 189: 1-[3-[1-(2-Hydroxy-ethyl)-1H-pyrazol-4-yl]-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea



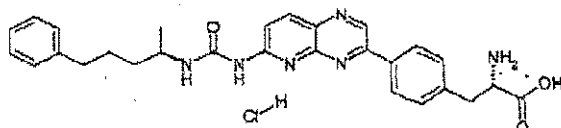
Compound 194: 2-Methoxy-4-{6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-benzoic acid



Compound 195: (S)-2-Amino-3-(4-{6-[3-((R)-1-methyl-4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-phenyl)-propionic acid; hydrochloride

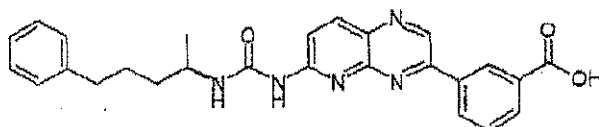
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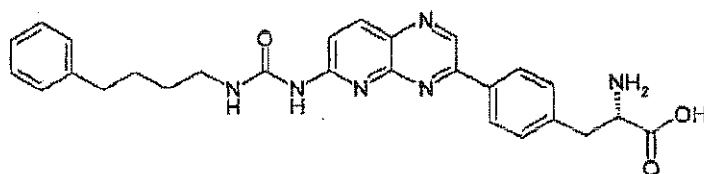
Compound 196: 3-{6-[3-((R)-1-Methyl-4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-benzoic acid

5



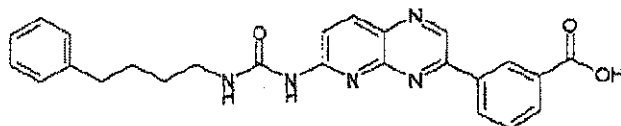
Compound 197: (S)-2-Amino-3-(4-{6-[3-(4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-phenyl)-propionic acid

10



Compound 198: 3-{6-[3-(4-Phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-benzoic acid

15



Compound 199: 1-{3-[4-(2-Methoxy-ethoxy)-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-(4-phenyl-butyl)-urea

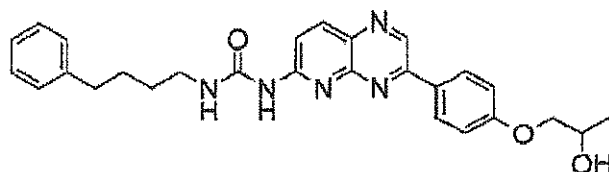
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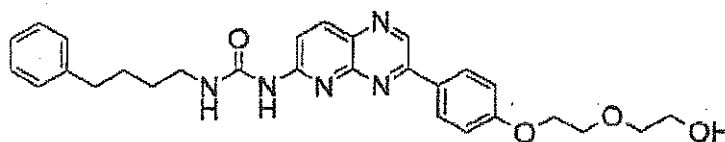
135~~27~~

Compound 200: rac 1-{3-[4-(2-Hydroxy-propoxy)-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-(4-phenyl-butyl)-urea



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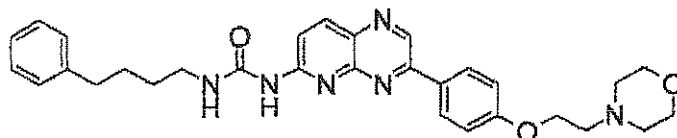
Compound 201: 1-{3-[4-[2-(2-Hydroxy-ethoxy)-ethoxy]-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-(4-phenyl-butyl)-urea



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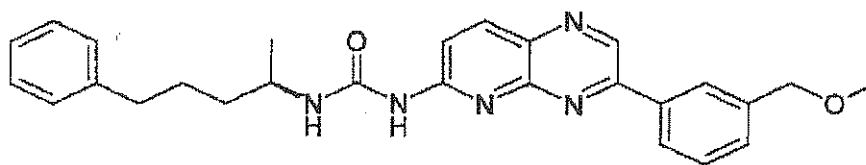
Compound 202:

1-{3-[4-(2-Morpholin-4-yl-ethoxy)-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-(4-phenyl-butyl)-urea



15

Compound 203: 1-{3-[3-Methoxymethyl-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-((R)-1-methyl-4-phenyl-butyl)-urea

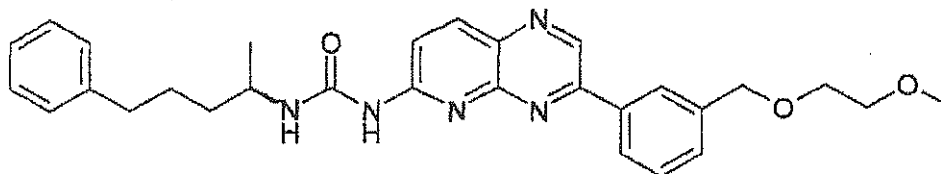


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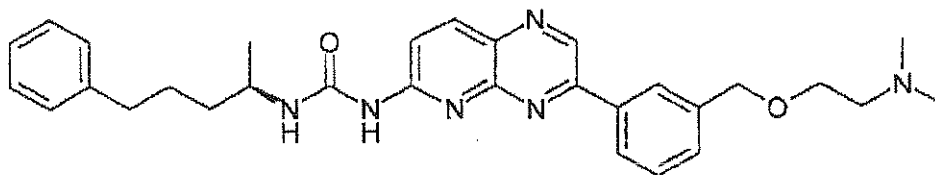
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Compound 204: 1-{3-[3-(2-Methoxy-ethoxymethyl)-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-((R)-1-methyl-4-phenyl-butyl)-urea



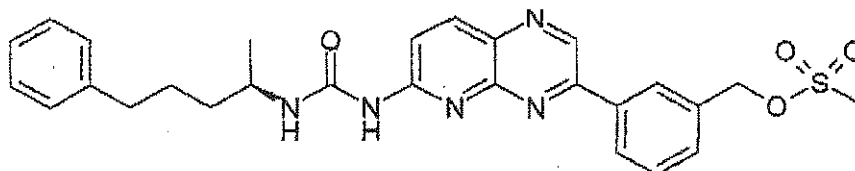
5

Compound 205: 1-{3-[3-(2-Dimethylamino-ethoxymethyl)-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-3-((R)-1-methyl-4-phenyl-butyl)-urea



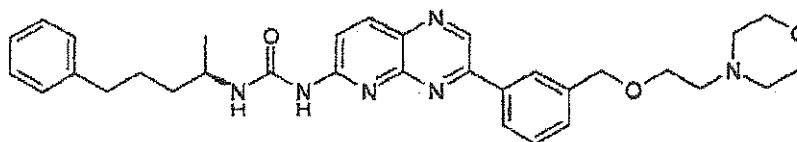
10

Compound 206: Methanesulfonic acid 3-{6-[3-((R)-1-methyl-4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-benzyl ester



15

Compound 207: 1-((R)-1-Methyl-4-phenyl-butyl)-3-{3-[3-(2-morpholin-4yl-ethoxymethyl)phenyl] pyrido[2,3-b]pyrazin-6-yl}-urea



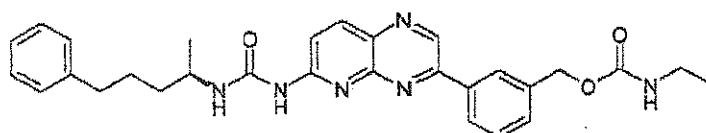
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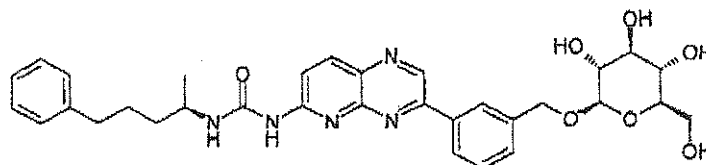
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Compound 208: Ethyl-carbamic acid 3-{6-[3-((R)-1-methyl-4-phenyl-butyl)-ureido]-pyrido[2,3-b]pyrazin-3-yl}-benzyl ester



5

Compound 209: 1-((R)-1-Methyl-4-phenyl-butyl)-3-{3-[3-((2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-hydroxymethyl-tetrahydro-pyran-2-yloxymethyl)-phenyl]-pyrido[2,3-b]pyrazin-6-yl}-urea



10

6. Use according to any one of Claims 1 to 5, wherein the treatment or prevention is effected by modulation of the ras-Raf-Mek-Erk signal transduction pathway.

15

7. Use according to any one of Claims 1 to 6 wherein the modulation of the ras-Raf-Mek-Erk signal transduction pathway is effected by modulation of one or more enzymes selected from the group consisting of tyrosine kinase, serine/threonine kinase, receptor tyrosine kinase, cytoplasmic tyrosine kinase, cytoplasmic serine/threonine kinase.

20

8. Use according to Claim 7, wherein the enzyme is selected from the group consisting of Erk, Erk1, Erk2.

25 9. Use according to any one of Claims 1 to 8, wherein one or more enzymes are modulated.

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10. Use according to any one of Claims 1 to 9, wherein the modulation is an inhibition.
- 5 11. Use according to any one of claims 1 to 5, wherein at least one compound selected from the group consisting of compound 90, 91, 92, , 94, 95, , 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, , 118,, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, , 135, 137, 138, , 144, 145, 146, 147, 148, 149, 150, 151, 152, , , 10 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, , 167, 168, 169, 170, 171, , 174, 175, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, , 188, 189, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209 can act with high selectivity or have a modulating or inhibiting effect on the ras-Raf-Mek-Erk 15 signal transduction pathway or enzymes thereof and the multiple mechanisms of action and therapy approaches can be used with this signal pathway or enzymes.
- 20 12. Use according to any one of Claims 1 to 11, wherein the medicament comprises at least one further pharmacologically active substance.
- 25 13. Use according to any one of Claims 1 to 11, wherein the medicament is administered before and/or during and/or after treatment with radiation therapy and/or surgery.
- 30 14. Use according to Claim 12, wherein the further pharmacologically active substance is selected from the group consisting of DNA topoisomerase I and/or II inhibitors, DNA intercalators, alkylating agents, microtubuli destabilisers, hormone and/or growth factor receptor agonists and/or antagonists, antibodies against growth factors and their receptors, kinase inhibitors, alkylphospholipids, antimetabolites", wherein the further pharmacologically active substance is selected from the group consisting of:

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"asparaginase, bleomycin, carboplatin, carmustin, chlorambucil, cisplatin,
 colaspase, cyclophosphamide, cytarabine, dacarbazine, dactinomycin,
 daunorubicin, doxorubicin(adriamycin), epirubicin, etoposide, 5-fluorouracil,
 hexamethylmelamine, hydroxurea, Ifosfamide, Irinotecan, leucovorin,
 5 lomustine, mechlorethamine, 6-mercaptopurine, mesna, methotrexate,
 mitomycin C, mitoxantrone, prednisolone, prednisone, procarbazine,
 raloxifene, streptozocin, tamoxifen, thioguanine, topotecan, vinblastine,
 vincristine, vindesine, aminoglutethimide, L-asparaginase, azathioprine, 5-
 azacytidine cladribine, busulfan, diethylstilbestrol, 2', 2'-difluorodeoxycytidine,
 10 docetaxel, erythrohydroxynonyladenine, ethinylestradiol, 5-fluorodeoxyuridin,
 5-fluorodeoxyuridin monophosphate, fludarabine phosphate,
 fluoxymesterone, flutamide, hydroxyprogesterone caproate, idarubicin,
 interferon, medroxyprogesterone acetate, megestrol acetate, melphalan,
 mitotane, paclitaxel, oxaliplatin, pentostatin, N-phosphonoacetyl-L-aspartate
 15 (PALA), plicamycin, semustine, teniposide, testosterone propionate, thiotepa,
 trimethylmelamine, uridine, vinorelbin, epothilone, gemcitabine, Taxotere,
 BCNU, CCNU, DTIC, 5-fluorouracil, Herceptin, Avastin, Erbitux, Sorafenib,
 Gleevec, Iressa, Tarceva, rapamycin, perifosine, miltefosine, edelfosine,
 actinomycin D.

20

15. Pyridopyrazine selected from the group consisting of compound 90, 91, 92,
 94, 95, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110,
 111, 112, 113, 114, 115, , 118, , 120, 121, 122, 123, 124, 125, 126, 127, 128,
 129, 130, 131, 132, 133,, 135, 137, 138, , 144, 145, 146, 147, 148, 149, 150,
 25 151, 152, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 167, 168,
 169, 170, 171, 174, 175, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186,
 188, 189, 194, 195, 196, 197, 198, 198, 199, 200, 201, 202, 203, 204, 205,
 206, 207, 208 209 its physiologically tolerated salts, in the form of its
 racemates, in the form of its pure enantiomers and/or diastereomers or in the
 30 form of mixtures of these enantiomers and/or diastereomers or in the form of
 its tautomers.

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16. A pharmaceutical composition which comprises a pharmacologically active
 amount of at the least one compound according to claim 15, for the treatment
 or prophylaxis of physiological and/or pathophysiological conditions which can

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be treated by modulation of the signal transduction pathway or pathways selected from the group consisting of the PI3K-Akt signal transduction pathway and/or ras-Raf-Mek-Erk signal transduction pathway, wherein the physiological and/or pathophysiological states are selected from the group consisting of: "malignant tumours, benign tumours, inflammatory diseases, inflammations, pain, rheumatic diseases, arthritic diseases, HIV infections, neurological or neurodegenerative diseases, rheumatism, arthritis, AIDS, ARC (AIDS related complex), Kaposi's sarcoma, tumours originating from the brain and/or nervous system and/or meninges, dementia, Alzheimer's disease, hyperproliferative diseases, psoriasis, endometriosis, scarring, benign prostatic hyperplasia (BPH), diseases of the immune system, autoimmune diseases, immunodeficiency diseases, colon tumour, gastric tumour, intestinal tumour, pulmonary tumour, pancreatic tumour, ovarian tumour, prostatic tumour, leukaemia, melanoma, hepatic tumour, renal tumour, head tumour, throat tumour, glioma, breast tumour, uterine cancer, endometrial cancer, cervico-uterine carcinoma, brain tumour, adeno-acanthoma, cancer of the bladder, gastric tumour, colorectal tumour, oesophageal cancer, gynaecological tumour, ovarian tumour, cancer of the thyroid, lymphoma, chronic leukaemia, acute leukaemia, restenosis, diabetes, diabetic nephropathy, fibrotic diseases, cystic fibrosis, malignant nephrosclerosis, thrombotic microangiopathy syndrome, organ transplant rejection, glomerulopathy, metabolic diseases, solid/fixed tumours, rheumatic arthritis, diabetic retinopathy, asthma, allergies, allergic diseases, chronic obstructive pulmonary diseases, inflammatory bowel disease, fibrosis, atherosclerosis, heart diseases, cardiovascular diseases, diseases of the myocardium, vascular diseases, angiogenetic diseases, kidney diseases, rhinitis, Grave's disease, focal ischemia, cardiac failure, ischemia, cardiac hypertrophy, renal failure, cardiac myocytic malfunction, high blood pressure, vasoconstriction, stroke, anaphylactic shock, platelet agglutination, skeletal muscular atrophy, obesity, overweight, glucose homeostasis, congestive cardiac insufficiency, angina, heart attack, cardiac infarction, hyperglycaemia, hypoglycaemia, hypertension".

17. Pharmaceutical composition comprising a pharmacologically active quantity of at least one compound according to Claim 15.

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18. Pharmaceutical composition according to Claim 17, wherein the active substance is present in a unit dose of 0.001 mg to 100 mg per kg body weight of a patient.

5 19. Pharmaceutical composition according to any one of Claims 17 or 18, wherein the composition further contains at least one pharmaceutically compatible excipient and/or adjuvant.

20. Pharmaceutical composition according to any one of Claims 17 to 19, wherein
10 the composition contains at least one further pharmacologically active substance.

21. Pharmaceutical composition according to Claim 20, wherein the further pharmacologically active substance is selected from the group consisting of:
15 "DNA topoisomerase I and/or II inhibitors, DNA intercalators, alkylating agents, microtubull destabilisers, hormone and/or growth factor receptor agonists and/or antagonists, antibodies against growth factors and their receptors, kinase inhibitors, alkylphospholipids, antimetabolites" selected from the group consisting of: "asparaginase, bleomycin, carboplatin, carmustin,
20 chlorambucil, cisplatin, colaspase, cyclophosphamide, cytarabine, dacarbazine, dactinomycin, daunorubicin, doxorubicin(adriamycin), epirubicin, etoposide, 5-fluorouracil, hexamethylmelamine, hydroxurea, ifosfamide, irinotecan, leucovorin, lomustine, mechlorethamine, 6-mercaptopurine, mesna, methotrexate, mitomycin C, mitoxantrone, prednisolone, prednisone,
25 procarbazine, raloxifene, streptozocin, tamoxifen, thioguanine, topotecan, vinblastine, vincristine, vindesine, aminoglutethimide, L-asparaginase, azathioprine, 5-azacytidine cladribine, busulfan, diethylstilbestrol, 2', 2'-difluorodeoxycytidine, docetaxel, erythrohydroxynonyladenine, ethinylestradiol, 5-fluorodeoxyuridin, 5-fluorodeoxyuridin monophosphate,
30 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, vinorelbin,

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epothilone, gemcitabine, Taxotere, BCNU, CCNU, DTIC, 5-fluorouracil, Herceptin, Avastin, Erbitux, Sorafenib, Gleevec, Iressa, Tarceva, rapamycin, perifosine, miltefosine, edelfosine, actinomycin D".

- 5 22. Kit comprising a pharmacologically active quantity of at least one compound according to Claim 15 and a pharmacologically active quantity of at least one further pharmacologically active substance according to any one of Claims 20 to 21.

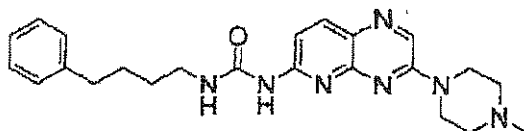
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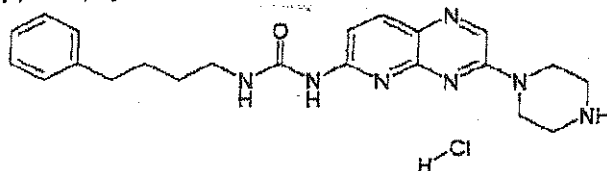
23. Use of a compound selected from the group consisting of

Compound 93: 1-[3-(4-Methyl-piperazin-1-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-(4-phenyl-butyl)-urea

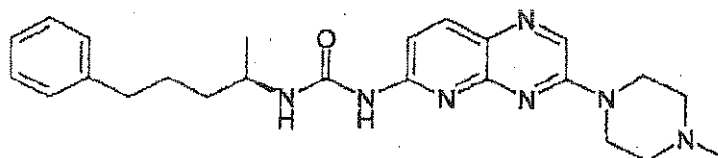
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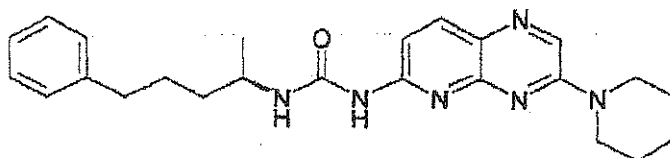
Compound 96: 1-(4-Phenyl-butyl)-3-(3-piperazin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea; hydrochloride



10 Compound 153: 1-((R)-1-Methyl-4-phenyl-butyl)-3-[3-(4-methyl-piperazin-1-yl)-pyrido[2,3-b]pyrazin-6-yl]-urea



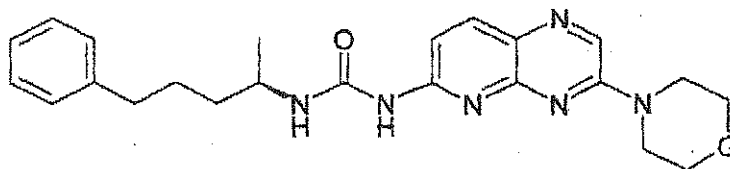
15 Compound 154: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-piperidin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



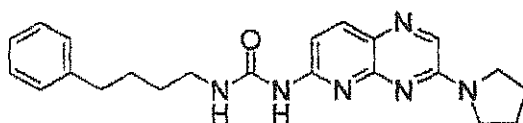
20 Compound 166: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-morpholin-4-yl-pyrido[2,3-b]pyrazin-6-yl)-urea

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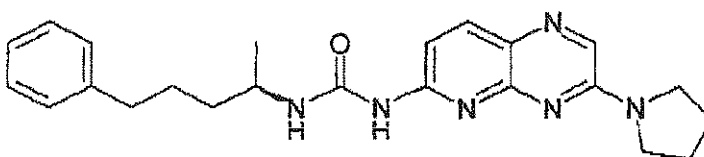
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Compound 172: 1-(4-Phenyl-butyl)-3-(3-pyrrolidin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea

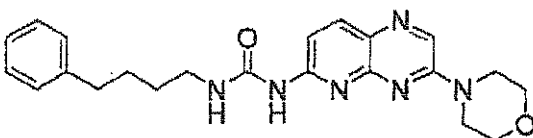


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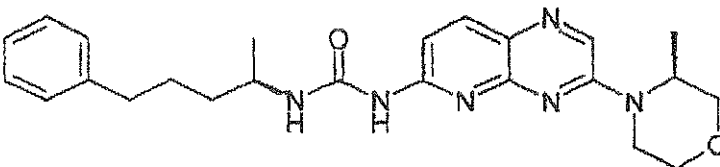
Compound 173: 1-((R)-1-Methyl-4-phenyl-butyl)-3-(3-pyrrolidin-1-yl-pyrido[2,3-b]pyrazin-6-yl)-urea



10 **Compound 176:** 1-(3-Morpholin-4-yl-pyrido[2,3-b]pyrazin-6-yl)-3-(4-phenyl-butyl)-urea



15 **Compound 187:** 1-[3-((S)-3-Methyl-morpholin-4-yl)-pyrido[2,3-b]pyrazin-6-yl]-3-((R)-1-methyl-4-phenyl-butyl)-urea



its physiologically tolerated salts, in the form of its racemates, in the form of its
20 pure enantiomers and/or diastereomers or in the form of mixtures of these
enantiomers and/or diastereomers or in the form of its tautomers;

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for the production of a medicament for the treatment or prevention of physiological and/or pathophysiological states in mammals mediated by the ras-Raf-Mek-Erk signal transduction pathway,

wherein the physiological and/or pathophysiological states are selected from the

- 5 group consisting of: "malignant tumours, benign tumours, inflammatory diseases, inflammations, pain, rheumatic diseases, arthritic diseases, HIV infections, neurological or neurodegenerative diseases, rheumatism, arthritis, AIDS, ARC (AIDS related complex), Kaposi's sarcoma, tumours originating from the brain and/or nervous system and/or meninges, dementia, Alzheimer's disease,
- 10 hyperproliferative diseases, psoriasis, endometriosis, scarring, benign prostatic hyperplasia (BPH), diseases of the immune system, autoimmune diseases, immunodeficiency diseases, colon tumour, gastric tumour, intestinal tumour, pulmonary tumour, pancreatic tumour, ovarian tumour, prostatic tumour, leukaemia, melanoma, hepatic tumour, renal tumour, head tumour, throat tumour,
- 15 glioma, breast tumour, uterine cancer, endometrial cancer, cervico-uterine carcinoma, brain tumour, adeno-acanthoma, cancer of the bladder, gastric tumour, colorectal tumour, oesophageal cancer, gynaecological tumour, ovarian tumour, cancer of the thyroid, lymphoma, chronic leukaemia, acute leukaemia, restenosis, diabetes, diabetic nephropathy, fibrotic diseases, cystic fibrosis, malignant
- 20 nephrosclerosis, thrombotic microangiopathy syndrome, organ transplant rejection, glomerulopathy, metabolic diseases, solid/fixed tumours, rheumatic arthritis, diabetic retinopathy, asthma, allergies, allergic diseases, chronic obstructive pulmonary diseases, inflammatory bowel disease, fibrosis, atherosclerosis, heart diseases, cardiovascular diseases, diseases of the myocardium, vascular diseases,
- 25 angiogenetic diseases, kidney diseases, rhinitis, Grave's disease, focal ischemia, cardiac failure, ischemia, cardiac hypertrophy, renal failure, cardiac myocytic malfunction, high blood pressure, vasoconstriction, stroke, anaphylactic shock, platelet agglutination, skeletomuscular atrophy, obesity, overweight, glucosio homeostasis, congestive cardiac insufficiency, angina, heart attack, cardiac
- 30 infarction, hyperglycaemia, hypoglycaemia, hypertension".