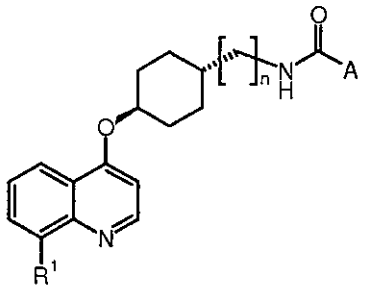
Patent claims

1. Compound of general formula (**I**)



(**I**), in which

R^1 stands for H, cyano, fluorine, chlorine or bromine;

A stands for phenyl or 5-membered heteroaryl, wherein this phenyl or this 5-membered heteroaryl is optionally substituted with one, two or three substituents selected independently of one another from:
halogen, cyano, alkyl-, haloalkyl-, cycloalkyl-, heterocyclyl-, hydroxy, alkoxy-, fluoroalkoxy-, cycloalkyloxy-, amino-, alkylamino-, dialkylamino-, cycloalkylamino-, alkylcycloalkylamino-, dicycloalkylamino-, alkylcarbonylamino-, cycloalkylcarbonylamino-, alkylsulphanyl-, cycloalkylsulphanyl-, alkylsulphonyl-, cycloalkylsulphonyl-, aminosulphonyl-, alkylaminosulphonyl-, cycloalkylaminosulphonyl-; alkoxycarbonyl-;

n = 0, 1 or 2;

or one of their salts, of their solvates or of the solvates of their salts.

2. Compound according to Claim 1, characterized in that

R^1 stands for H, cyano, fluorine or bromine;

A stands for phenyl or 5-membered heteroaryl, wherein this phenyl or this 5-membered heteroaryl is optionally substituted with one or two substituents selected independently of one another from:
halogen, cyano, alkyl-, haloalkyl-;

n = 0 or 1;

or one of their salts, of their solvates or of the solvates of their salts.

3. Compound according to Claim 1, characterized in that

R^1 stands for H, bromine, cyano or fluorine;

A stands for phenyl or 5-membered heteroaryl, wherein this phenyl or this 5-membered heteroaryl is optionally substituted with one or two substituents selected independently of one another from: fluorine, chlorine, cyano, methyl or trifluoromethyl;

n = 0 or 1;

or one of their salts, of their solvates or of the solvates of their salts.

4. Compound according to Claim 1 selected from

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-4-fluorobenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-5-methylisoxazole-3-carboxamide,

N-[trans-4-(4-quinolyloxy)cyclohexyl]-3,4-difluorobenzamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-3-methylisoxazole-4-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-isoxazole-5-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)isoxazole-3-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-5-methylisoxazole-3-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-1H-pyrazole-3-carboxamide,

N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-3,4-difluorobenzamide,

N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-3-fluorobenzamide,

N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-5-methylisoxazole-3-carboxamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-fluorobenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3,4-difluorobenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-fluoro-4-methylbenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-4-cyanobenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-fluoro-4-(trifluoromethyl)benzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-4-fluorobenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-chloro-4-fluorobenzamide,

N-{trans-4-(4-quinolyloxy)cyclohexyl}-3-fluorobenzamide,

N-({trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}methyl)-5-methylisoxazole-3-carboxamide,

N-({trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}methyl)isoxazole-3-carboxamide,

N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-4-cyanobenzamide

N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3-fluorobenzamide,

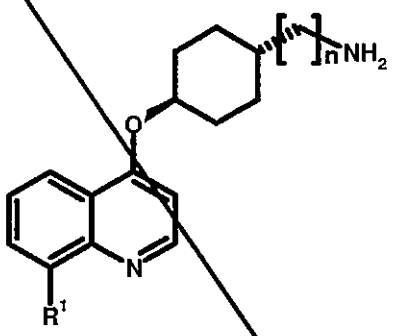
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3,4-difluorobenzamide,

N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-4-fluorobenzamide,

N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-5-methylisoxazole-3-carboxamide,

3-chloro-N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-4-fluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3-fluoro-4-methylbenzamide,
4-chloro-N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3-fluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3,5-difluorobenzamide,
N-({trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}methyl)isoxazole-3-carboxamide,
N-({trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}methyl)-5-methylisoxazole-3-carboxamide.

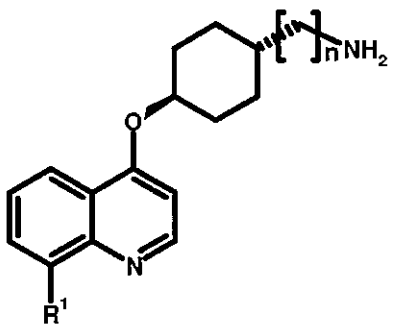
5. Method of producing a compound of formula (I) or one of its salts, of its solvates or of the solvates of its salts according to Claim 1, characterized in that compounds of general formula (II)



(II),

in which R^1 and n have the meaning defined in Claim 1,
are reacted with an acid chloride A-COCl, in which A has the meaning defined in Claim 1,
in the presence of a base,
and the resulting compounds of formula (I) are converted optionally with the corresponding (i) solvents and/or (ii) bases or acids to their solvates, salts and/or solvates of the salts.

6. Method of producing a compound of formula (I) or one of its salts, its solvates or the solvates of its salts according to Claim 1, characterized in that
compounds of general formula (II)



(II),

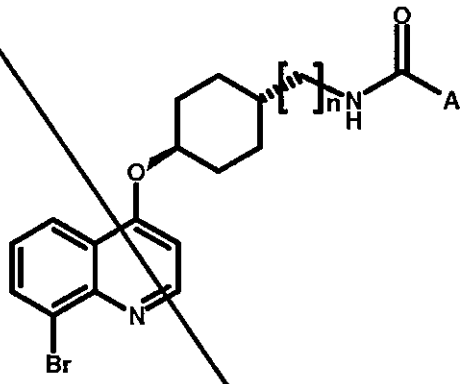
in which R^1 and n have the meaning defined in Claim 1,

are reacted with an acid A-COOH, in which A has the meaning defined in Claim 1,

in the presence of a suitable coupling reagent and a base,

and the resulting compounds of formula (I) are converted optionally with the corresponding (i) solvents and/or (ii) bases or acids to their solvates, salts and/or solvates of the salts.

7. Method of producing a compound of formula (I) according to Claim 1, in which R^1= cyano or one of its salts, of its solvates or of the solvates of its salts, characterized in that compounds of general formula (VII)



VII , in which n and A have the meaning defined in Claim 1,

are submitted to a bromine/cyano exchange reaction,

and the resulting compounds of formula (I) in which R^1 = cyano, are converted optionally with the corresponding (i) solvents and/or (ii) bases or acids to their solvates, salts and/or solvates of the salts.

8. Compound as defined in one of Claims 1 to 4, for use as medicinal products.

9. Compound as defined in one of Claims 1 to 4, for use in the treatment and/or prevention of hyperproliferative diseases.

10. Compound for the use according to Claim 9, wherein the hyperproliferative disease is an androgen receptor–dependent hyperproliferative disease.

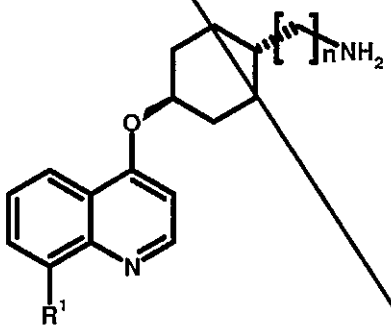
11. Medicinal product containing a compound as defined in one of Claims 1 to 4, in combination with another active substance.

12. Medicinal product containing a compound as defined in one of Claims 1 to 4, in combination with an inert, non-toxic, pharmaceutically suitable excipient.

13. Medicinal product according to Claim 11 or 12 for use in the treatment and/or prevention of hyperproliferative diseases.

14. Medicinal product according to Claim 11 or 12 for use in the treatment and/or prevention of androgen receptor–dependent hyperproliferative diseases.

15. Compound of general formula (II)

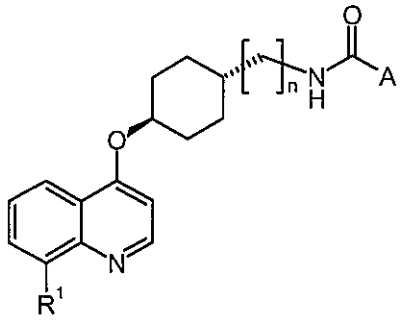


II ,

in which R^1 and n have the meaning defined in Claim 1.

CLAIMS

1. A compound of general formula (I)



(I),

in which

R^1 stands for H, cyano, fluorine or bromine;

A stands for phenyl or 5-membered heteroaryl, wherein this phenyl or this 5-membered heteroaryl is optionally substituted with one or two substituents selected independently of one another from either:

i) halogen, cyano, alkyl-, haloalkyl-; or

ii) fluorine, chlorine, cyano, methyl or trifluoromethyl;

n = 0 or 1;

or one of its salts, of its solvates or of the solvates of its salts.

2. The compound of Claim 1, in which A stands for:

a) isoxazolyl, wherein this isoxazolyl is optionally substituted with a methyl group;

b) fluorophenyl; or

c) 3-fluorophenyl.

3. The compound according to Claim 1, selected from

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-4-fluorobenzamide,

N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-5-methylisoxazole-3-carboxamide,

N-[trans-4-(4-quinolyloxy)cyclohexyl]-3,4-difluorobenzamide,

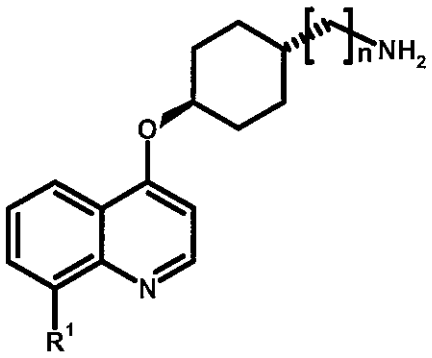
N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-3-methylisoxazole-4-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-isoxazole-5-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)isoxazole-3-carboxamide,

N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-5-methylisoxazole-3-carboxamide,
N-({trans-4-[(8-fluoroquinolin-4-yl)oxy]cyclohexyl}methyl)-1H-pyrazole-3-carboxamide,
N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-3,4-difluorobenzamide,
N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-3-fluorobenzamide,
N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-5-methylisoxazole-3-carboxamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-fluorobenzamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3,4-difluorobenzamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-fluoro-4-methylbenzamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-4-cyanobenzamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-fluoro-4-(trifluoromethyl)benzamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-4-fluorobenzamide,
N-{trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}-3-chloro-4-fluorobenzamide,
N-{trans-4-(4-quinolyloxy)cyclohexyl}-3-fluorobenzamide,
N-({trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}methyl)-5-methylisoxazole-3-carboxamide,
N-({trans-4-[(8-bromoquinolin-4-yl)oxy]cyclohexyl}methyl)isoxazole-3-carboxamide,
N-{[trans-4-(4-quinolyloxy)cyclohexyl]methyl}-4-cyanobenzamide
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3-fluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3,4-difluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-4-fluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-5-methylisoxazole-3-carboxamide,
3-chloro-N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-4-fluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3-fluoro-4-methylbenzamide,
4-chloro-N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3-fluorobenzamide,
N-{trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}-3,5-difluorobenzamide,
N-({trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}methyl)isoxazole-3-carboxamide, or
N-({trans-4-[(8-cyanoquinolin-4-yl)oxy]cyclohexyl}methyl)-5-methylisoxazole-3-carboxamide.

4. A method of producing a compound of formula (I) or one of its salts, of its solvate or of the solvate of its salt according to Claim 1, characterized in that a compound of general formula (II)



(II),

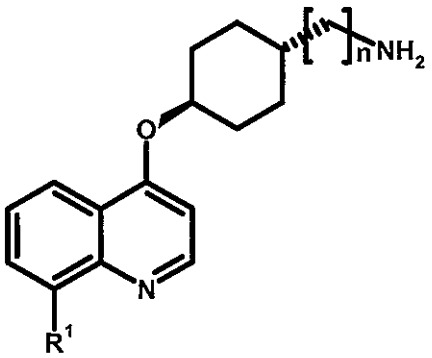
in which R^1 and n have the meaning defined in Claim 1,

is reacted with an acid chloride A-COCl, in which A has the meaning defined in Claim 1,

in the presence of a base,

and the resulting compound of formula (I) is converted optionally with the corresponding (i) solvent and/or (ii) base or acid to its solvates, salt and/or solvate of the salt.

5. A method of producing a compound of formula (I) or one of its salts, its solvate or the solvate of its salts according to Claim 1, characterized in that a compound of general formula (II)



(II),

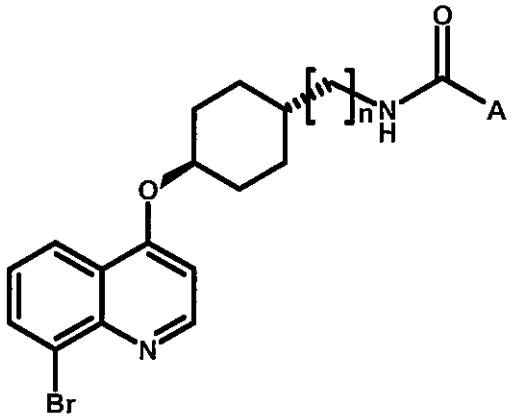
in which R^1 and n have the meaning defined in Claim 1,

is reacted with an acid A-COOH, in which A has the meaning defined in Claim 1,

in the presence of a suitable coupling reagent and a base,

and the resulting compound of formula (I) isconverted optionally with the corresponding (i) solvent and/or (ii) base or acid to its solvate, salt and/or solvate of the salt.

6. A method of producing a compound of formula (I) according to Claim 1, in which R^1 = cyano or one of its salts, of its solvate or of the solvate of its salt, characterized in that a compound of general formula (VII)



VII,

in which n and A have the meaning defined in Claim 1,
is submitted to a bromine/cyano exchange reaction,
and the resulting compound of formula (I) in which R^1 = cyano,is converted optionally with the corresponding (i) solvent and/or (ii) base or acid to its solvate, salt and/or solvate of the salt.

7. The compound according to any one of Claims 1 to 3, for use as medicinal products.

8. The compound according to any one of Claims 1 to 3, for use in the treatment and/or prevention of hyperproliferative diseases.

9. The compound for the use according to Claim 8, wherein the hyperproliferative disease is an androgen receptor–dependent hyperproliferative disease.

10. Use of a compound according to any one of Claims 1 to 3, for the preparation of a medicament for the treatment and/or prevention of prostate cancer.

11. Use of a compound according to any one of Claims 1 to 3, for the preparation of a medicament for the treatment and/or prevention of hirsutism.

12. Use of a compound according to any one of Claims 1 to 3, for the preparation of a medicament for the treatment and/or prevention of polycystic ovary syndrome.

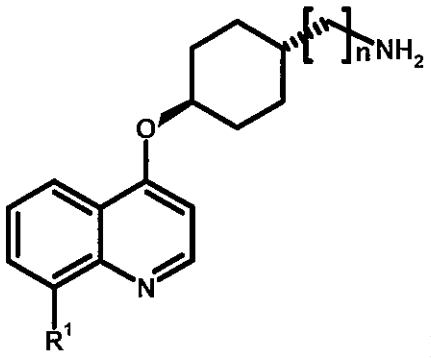
13. A medicinal product containing a compound according to any one of Claims 1 to 3, in combination with another active substance.

14. A medicinal product containing a compound according to any one of Claims 1 to 3, in combination with an inert, non-toxic, pharmaceutically suitable excipient.

15. The medicinal product according to Claim 13 or Claim 14, for use in the treatment and/or prevention of hyperproliferative diseases.

16. The medicinal product according to Claim 13 or Claim 14, for use in the treatment and/or prevention of androgen receptor–dependent hyperproliferative diseases.

17. A compound of general formula (II)



II,

in which R^1 and n have the meaning defined in Claim 1.