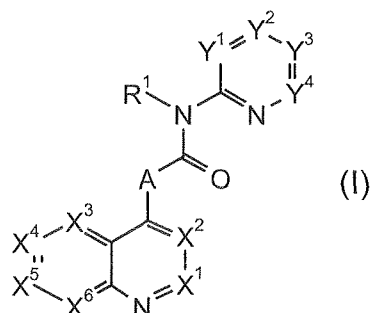


We claim:

1. A heterocyclic compound of the formula (I)



5

the stereoisomers, N-oxides, prodrugs, tautomers and/or physiologically tolerated acid addition salts thereof, and the compounds of the general formula I, wherein at least one of the atoms has been replaced by its stable, non-radioactive isotope, wherein

10

A is NR^{B} ; where

R^{B} is selected from hydrogen, $\text{C}_1\text{-C}_4\text{-alkyl}$ and $\text{C}_1\text{-C}_4\text{-haloalkyl}$;

15

X^1 and X^2 are independently of each other selected from the group consisting of CR^2 and N;

X^3 , X^4 , X^5 and X^6 are independently of each other selected from the group consisting of CR^3 , CR^4 and N;

20

with the proviso that no more than two of X^3 , X^4 , X^5 and X^6 are CR^4 ;

Y^1 , Y^2 , Y^3 and Y^4 are independently of each other selected from the group consisting of CR^4 , CR^5 and N;

5

with the proviso that at most one of Y^1 , Y^2 , Y^3 and Y^4 is N and with the proviso that at most one of Y^1 , Y^2 , Y^3 and Y^4 is CR^4 ; and

10

with the proviso that one of Y^1 , Y^2 , Y^3 and Y^4 is CR^4 or C-CF₃ if none of X^3 , X^4 , X^5 and X^6 is CR^4 ;

R^1 is hydrogen;

each R^2 is hydrogen;

15

each R^3 is independently selected from the group consisting of hydrogen, CN, OH, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₃-C₇-cycloalkyl, C₃-C₇-halocycloalkyl, C₂-C₄-alkenyl, C₂-C₄-haloalkenyl, C₁-C₆-alkoxy and C₁-C₆-haloalkoxy;

20

R^4 is a C-bound saturated or partially unsaturated monocyclic 5- or 6-membered heterocyclic ring containing 1, 2 or 3 heteroatoms or heteroatom-containing groups selected from O and N as ring members, where

the heterocyclic ring optionally carries 1, 2 or 3 C- or N-bound substituents R⁸;

5 R⁵ is selected from the group consisting of hydrogen, CN, OH, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₃-C₇-cycloalkyl, C₃-C₇-halocycloalkyl, C₂-C₄-alkenyl, C₂-C₄-haloalkenyl, C₁-C₆-alkoxy and C₁-C₆-haloalkoxy; and

10 R⁸ independently of each occurrence, is selected from the group consisting of CN, OH, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₃-C₇-cycloalkyl, C₃-C₇-halocycloalkyl, C₂-C₄-alkenyl, C₂-C₄-haloalkenyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, formyl, C₁-C₆-alkylcarbonyl, C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkoxycarbonyl and C₁-C₆-haloalkoxycarbonyl;

15 where the prodrugs are selected from compounds of formula I, wherein a secondary nitrogen ring atom of the ring R⁴ or a nitrogen atom of a primary or secondary amino group being a substituent R², R³, R⁵, R⁶, R⁷ and/or R⁸ forms an amide/peptide bond in that this nitrogen atom is substituted by a C₁-C₄-alkylcarbonyl group, by benzoyl, or by glycine, alanine, serine or phenylalanine bonded via CO; or said nitrogen atom carries a group -C(=O)-O-CHR^x-O-C(=O)-R^y, wherein R^x and R^y independently of each other are C₁-C₄-alkyl.

20

2. The heterocyclic compound according to claim 1, wherein either one of X³, X⁴, X⁵ and X⁶ is CR⁴ and none of Y¹, Y², Y³ and Y⁴ is CR⁴, or one of Y¹, Y², Y³ and

Y^4 is CR^4 and none of X^3 , X^4 , X^5 and X^6 is CR^4 .

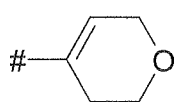
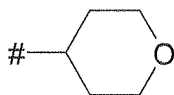
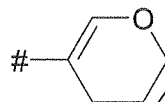
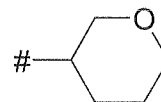
3. The heterocyclic compound according to claim 1, wherein one of Y^1 , Y^2 , Y^3 and Y^4 is CR^4 if none of X^3 , X^4 , X^5 and X^6 is CR^4 .
- 5 4. The heterocyclic compound according to claim 1, wherein one of Y^1 , Y^2 , Y^3 and Y^4 is $C-CF_3$ if none of X^3 , X^4 , X^5 and X^6 is CR^4 .
- 10 5. The heterocyclic compound according to any of the preceding claims, where R^4 is selected from C-bound pyrrolidinyl, pyrrolinyl, tetrahydropyranyl, dihydropyranyl, piperidinyl, tetrahydropyridinyl and dihydropyridinyl, where the heterocyclic ring optionally carries 1, 2 or 3 substituents R^8 .
- 15 6. The heterocyclic compound according to claim 5, where R^4 is selected from pyrrolidin-3-yl, pyrrolin-3-yl, tetrahydropyran-4-yl, tetrahydropyran-3-yl, dihydropyran-4-yl, dihydropyran-3-yl, piperidin-4-yl, 1,2,5,6-tetrahydropyridin-4-yl and 1,2-dihydropyridin-4-yl, where the heterocyclic ring optionally carries 1, 2 or 3 substituents R^8 .
- 20 7. The heterocyclic compound according to any of the preceding claims, where R^8 is selected from C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -cycloalkyl, C_3 - C_7 -halocycloalkyl, C_2 - C_4 -alkenyl, C_2 - C_4 -haloalkenyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, formyl, C_1 - C_6 -alkylcarbonyl, C_1 - C_6 -haloalkylcarbonyl, C_1 - C_6 -alkoxycarbonyl and C_1 - C_6 -haloalkoxycarbonyl, and is preferably C_1 - C_6 -alkyl, C_1 -

C₆-haloalkyl or C₁-C₆-alkoxycarbonyl.

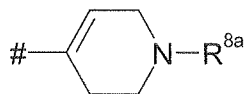
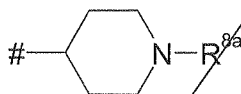
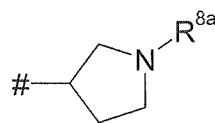
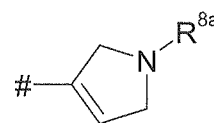
8. The heterocyclic compound according to any of the preceding claims, where R⁸ is N-bound.

5

9. The heterocyclic compound according to any of the preceding claims, where R⁴ is selected from following structures:



10



where

15

R^{8a} is hydrogen or has one of the meanings given in claims 1, 7 or 8 for R⁸;

and

is the attachment point to the remainder of the molecule.

20

10. The heterocyclic compound according to any of the preceding claims, where at most one of X¹, X², X³, X⁴, X⁵ and X⁶ is N.

11. The heterocyclic compound according to claim 10, where X¹ and X² are CR² and X³, X⁴, X⁵ and X⁶ are CR³ or CR⁴, or where X¹ and X² are CR², X³ is N and

X^4 , X^5 and X^6 are CR^3 or CR^4 .

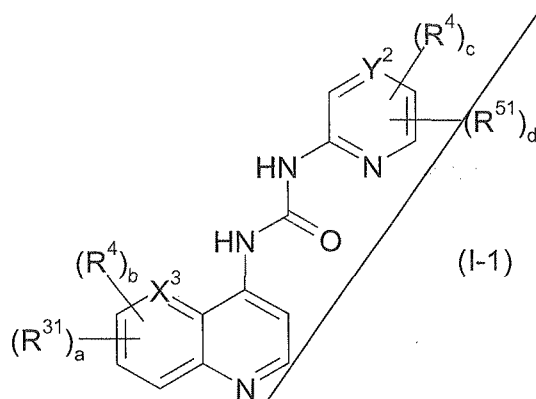
12. The heterocyclic compound according to any of the preceding claims, where
5 Y^1 , Y^2 , Y^3 and Y^4 are CR^4 or CR^5 or Y^2 is N and Y^1 , Y^3 and Y^4 are CR^4 or CR^5 .
13. The heterocyclic compound according to any of the preceding claims, where A
is NH.
14. The heterocyclic compound according to any of the preceding claims, where R^3
10 is selected from hydrogen, CN, halogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -
cycloalkyl, C_3 - C_7 -halocycloalkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -haloalkoxy, and is
preferably selected from hydrogen, CN, halogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl,
 C_1 - C_6 -alkoxy and C_1 - C_6 -haloalkoxy.
- 15 15. The heterocyclic compound according to any of the preceding claims, where 0,
1 or 2 of the radicals R^3 are different from hydrogen.
16. The heterocyclic compound according to any of the preceding claims, where R^5
is selected from hydrogen, CN, halogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_3 - C_7 -
20 cycloalkyl, C_3 - C_7 -halocycloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, formyl, C_1 - C_6 -
alkylcarbonyl, C_1 - C_6 -haloalkylcarbonyl, C_1 - C_6 -alkoxycarbonyl and C_1 - C_6 -
haloalkoxycarbonyl and is preferably selected from hydrogen, halogen, C_1 - C_4 -
haloalkyl, C_3 - C_7 -cycloalkyl and C_3 - C_7 -halocycloalkyl and in particular from hy-

drogen, fluorinated C₁-C₂-alkyl and C₃-C₆-cycloalkyl.

17. The heterocyclic compound according to any of the preceding claims, where at most one of the radicals R⁵ is different from hydrogen.

5

18. The heterocyclic compound according to any of the preceding claims, of formula I-1



10

where

X³ is N or CH;

Y² is N or CH;

R³¹ has one of the meanings given in claims 1, 14 or 15 for R³ except for hydrogen, and is preferably halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy;

15

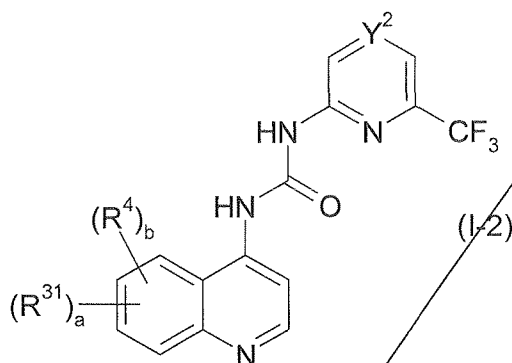
R⁴ has one of the meanings given in claims 1 or 5 to 9;

R⁵¹ has one of the meanings given in claims 1, 16 or 17 for R⁵ except for hydrogen;

a is 0, 1 or 2; and

b, c and d are independently of each other 0 or 1, with the proviso that one of b and c is 1.

19. The heterocyclic compound according to any of the preceding claims, of formula I-2



where

Y^2 is N or preferably CH;

- 10 R^{31} has one of the meanings given in claims 1, 14 or 15 for R^3 except for hydrogen, and is preferably selected from the group consisting of halogen, trifluoromethyl, cyano or methoxy;

R^4 has one of the meanings given in claims 1 or 5 to 9;

a is 0, 1 or 2;

- 15 b is 0 or 1.

20. The heterocyclic compound according to claim 19, where Y^2 is CH, b is 0 and a is 0, 1 or 2 and where R^{31} , if present, is selected from the group consisting of halogen, trifluoromethyl, cyano and methoxy.

21. A heterocyclic compound selected from the group consisting of
- 1-(6-(3,6-dihydro-2H-pyran-4-yl)pyridin-2-yl)-3-(8-fluoroquinolin-4-yl)urea,
- 1-(8-fluoroquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-4-yl)pyridin-2-yl)urea,
- 1-(6-(3,4-dihydro-2H-pyran-5-yl)pyridin-2-yl)-3-(8-fluoroquinolin-4-yl)urea,
- 5 1-(6-(3,6-dihydro-2H-pyran-4-yl)pyridin-2-yl)-3-(7-methoxyquinolin-4-yl)urea,
- 1-(6-(3,4-dihydro-2H-pyran-5-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 1-(7-(3,6-dihydro-2H-pyran-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 10 1-(6-(tetrahydro-2H-pyran-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 1-(7-methoxyquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-4-yl)pyridin-2-yl)urea,
- 1-(7-(tetrahydro-2H-pyran-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 15 1-(6-(tetrahydro-2H-pyran-3-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 1-(7-(3,6-dihydro-2H-pyran-4-yl)quinolin-4-yl)-3-(pyrazin-2-yl)urea,
- 1-(6-(3,4-dihydro-2H-pyran-5-yl)pyridin-2-yl)-3-(7-methoxyquinolin-4-yl)urea,
- 1-(7-methoxyquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-3-yl)pyridin-2-yl)urea,
- 20 1-(pyrazin-2-yl)-3-(7-(tetrahydro-2H-pyran-4-yl)quinolin-4-yl)urea,
- 1-(7-(3,4-dihydro-2H-pyran-5-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 1-(6-bromo-quinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(6-(trifluoromethyl)pyridin-2-yl)-3-quinolin-4-yl-urea,

- 1-(6,8-difluoroquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(7-bromoquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(7-trifluoromethylquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(7-methoxyquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 5 1-(8-trifluoromethylquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(8-cyanoquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(8-iodoquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(8-cyanoquinolin-4-yl)-3-pyrazin-2-yl-urea,
- 1-(7-methoxyquinolin-4-yl)-3-pyrazin-2-yl-urea,
- 10 tert-butyl 4-{4-[3-(6-trifluoromethyl-pyridin-2-yl)-ureido]-quinolin-6-yl}-3,6-dihydro-2H-pyridine-1-carboxylate,
- 1-[6-(1,2,3,6-tetrahydro-pyridin-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(6-(piperidin-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)urea,
- 15 1-[6-(1-methyl-1,2,3,6-tetrahydro-pyridin-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-[6-(1-methyl-piperidin-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-{6-[1-(2-fluoro-ethyl)-piperidin-4-yl]-quinolin-4-yl}-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 20 1-{6-[1-(2,2-difluoro-ethyl)-piperidin-4-yl]-quinolin-4-yl}-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-[6-(3,6-dihydro-2H-pyran-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,

- 1-[6-(3,6-dihydro-2H-pyran-4-yl)-quinolin-4-yl]-3-pyrazin-2-yl-urea,
tert-butyl 4-[4-(3-pyrazin-2-ylureido)quinolin-6-yl]-5,6-dihydropyridine-1(2H)-
carboxylate,
1-pyrazin-2-yl-3-[6-(1,2,3,6-tetrahydro-pyridin-4-yl)-quinolin-4-yl]-urea,
5 1-(6-piperidin-4-yl-quinolin-4-yl)-3-pyrazin-2-yl-urea,
1-{6-[1-(2-fluoro-ethyl)-piperidin-4-yl]-quinolin-4-yl}-3-pyrazin-2-yl-urea,
1-[6-(1-methyl-piperidin-4-yl)-quinolin-4-yl]-3-pyrazin-2-yl-urea,
tert-butyl 4-{4-[3-(6-cyclopropyl-pyrazin-2-yl)-ureido]-quinolin-6-yl}-3,6-dihydro-
2H-pyridine-1-carboxylate,
10 tert-butyl 4-{4-[3-(6-cyclopropyl-pyrazin-2-yl)-ureido]-quinolin-6-yl}-piperidine-1-
carboxylate,
1-(6-cyclopropyl-pyrazin-2-yl)-3-(6-piperidin-4-yl-quinolin-4-yl)-urea,
1-(6-cyclopropyl-pyrazin-2-yl)-3-[6-(1-methyl-piperidin-4-yl)-quinolin-4-yl]-urea,
tert-butyl 3-{4-[3-(6-Trifluoromethyl-pyridin-2-yl)-ureido]-quinolin-6-yl}-2,5-
15 dihydro-pyrrole-1-carboxylate,
1-[6-(2,5-dihydro-1H-pyrrol-3-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-
urea,
1-[6-(3,6-dihydro-2H-pyran-4-yl)-pyridin-2-yl]-3-(8-fluoro-quinolin-4-yl)-urea,
1-(8-fluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
20 1-(8-chloro-6-methyl-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-
urea,
1-(6,8-dichloro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-(6,8-difluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-(8-chloro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,

- 1-[1,5]naphthyridin-4-yl-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
 1-(5,8-difluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
 1-(8-fluoro-6-methoxy-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-
 urea,
- 5 1-[6-(5,6-dihydro-4H-pyran-3-yl)-pyridin-2-yl]-3-(8-fluoro-quinolin-4-yl)-urea,
 1-(8-fluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-3-yl)-pyridin-2-yl]-urea,
 1-[6-(3,6-dihydro-2H-pyran-4-yl)-pyridin-2-yl]-3-[1,5]naphthyridin-4-yl-urea,
 tert-butyl-6-[3-(8-fluoro-quinolin-4-yl)-ureido]-3',6'-dihydro-2'H-[2,4']bipyridinyl-
 1'-carboxylate,
- 10 1-(8-fluoro-quinolin-4-yl)-3-(1',2',3',6'-tetrahydro-[2,4']bipyridinyl-6-yl)-urea,
 tert-butyl-6-[3-(8-fluoro-quinolin-4-yl)-ureido]-3',4',5',6'-tetrahydro-2'H-
 [2,4']bipyridinyl-1'-carboxylate,
 1-(8-fluoro-quinolin-4-yl)-3-(1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl)-urea,
 1-(8-fluoro-quinolin-4-yl)-3-(1'-methyl-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-
 6-yl)-urea,
- 15 1-[1'-(2-fluoro-ethyl)-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl]-3-(8-fluoro-
 quinolin-4-yl)-urea,
 1-[1'-(2,2-difluoro-ethyl)-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl]-3-(8-
 fluoro-quinolin-4-yl)-urea,
- 20 1-(8-fluoro-quinolin-4-yl)-3-(1'-isopropyl-1',2',3',4',5',6'-hexahydro-
 [2,4']bipyridinyl-6-yl)-urea,
 1-(8-fluoro-quinolin-4-yl)-3-[5-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
 tert-butyl-3-[4-(3-pyrazin-2-yl-ureido)-quinolin-6-yl]-2,5-dihydro-pyrrole-1-
 carboxylate,

tert-butyl-3-[4-(3-pyrazin-2-yl-ureido)-quinolin-6-yl]-pyrrolidine-1-carboxylate,
1-pyrazin-2-yl-3-(6-pyrrolidin-3-yl-quinolin-4-yl)-urea,
the stereoisomers, N-oxides, prodrugs, tautomers or physiologically tolerated
acid addition salts thereof.

5

22. The heterocyclic compound according to claim 21, selected from 1-(7-methoxyquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea the stereoisomers, N-oxides, prodrugs, tautomers or physiologically tolerated acid addition salts thereof.

10

23. The heterocyclic compound according to claim 21, selected from 1-(8-fluoroquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-4-yl)pyridin-2-yl)urea, the stereoisomers, N-oxides, prodrugs, tautomers and physiologically tolerated acid addition salts thereof.

15

24. The heterocyclic compound according to claim 21, selected from 1-[1'-(2-fluoroethyl)-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl]-3-(8-fluoro-quinolin-4-yl)-urea, the stereoisomers, N-oxides, prodrugs, tautomers and physiologically tolerated acid addition salts thereof.

20

25. The heterocyclic compound according to claim 21, selected from 1-(7-methoxyquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-3-yl)pyridin-2-yl)urea, the stereoisomers, tautomers and physiologically tolerated acid addition salts thereof.

26. The heterocyclic compound according to claim 21, selected from 1-(8-fluoro-quinolin-4-yl)-3-(1',2',3',6'-tetrahydro-[2,4']bipyridinyl-6-yl)-urea, the stereoisomers, tautomers and physiologically tolerated acid addition salts thereof.
- 5 27. The heterocyclic compound according to any of the preceding claims, wherein at least one of the atoms has been replaced by its stable, non-radioactive isotope, and preferably wherein at least one hydrogen atom has been replaced by a deuterium atom.
- 10 28. A pharmaceutical composition comprising at least one heterocyclic compound as defined in any of the preceding claims, a stereoisomer, N-oxide, prodrug, tautomer and/or physiologically tolerated acid addition salt thereof or comprising at least one heterocyclic compound as defined in any of the preceding
- 15 claims wherein at least one of the atoms has been replaced by its stable, non-radioactive isotope, preferably wherein at least one hydrogen atom has been replaced by a deuterium atom, and at least one physiologically acceptable carrier and/or auxiliary substance.
- 20 29. The heterocyclic compounds as defined in any of claims 1 to 27 or the stereoisomers, N-oxides, prodrugs, tautomers or physiologically tolerated acid addition salts thereof for use as a medicament.
30. The heterocyclic compounds as defined in any of claims 1 to 27 or the stereoisomers, N-oxides, prodrugs, tautomers or physiologically tolerated acid addi-

tion salts thereof for use in the treatment of a neurodegenerative disorder or an inflammatory disorder.

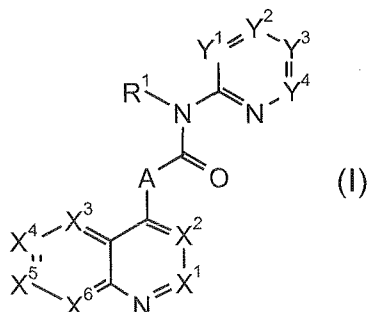
31. The use of the heterocyclic compound as defined in any of claims 1 to 27 or of
5 a stereoisomer, N-oxide, prodrug, tautomer or physiologically tolerated acid addition salt thereof for the preparation of a medicament for the treatment of a neurodegenerative disorder or an inflammatory disorder.

32. The heterocyclic compounds according to claim 30, where the medical disorder
10 is selected from schizophrenia, Alzheimer's disease, behavioural and psychiatric symptoms of dementia, Parkinson's disease, tauopathies, vascular dementia, acute stroke and other traumatic injuries, cerebrovascular accidents, brain and spinal cord trauma, peripheral neuropathies, bipolar disorders, retinopathies, glaucoma, pain, rheumatoid arthritis and osteoarthritis.

33. The use according to claim 31, where the medical disorder is selected from
15 schizophrenia, Alzheimer's disease, behavioural and psychiatric symptoms of dementia, Parkinson's disease, tauopathies, vascular dementia, acute stroke and other traumatic injuries, cerebrovascular accidents, brain and spinal cord
20 trauma, peripheral neuropathies, bipolar disorders, retinopathies, glaucoma, pain, rheumatoid arthritis and osteoarthritis.

We claim:

1. A heterocyclic compound of the formula (I)



the stereoisomers, N-oxides, tautomers and/or physiologically tolerated acid addition salts thereof, and the compounds of the general formula I, wherein at least one of the atoms has been replaced by its stable, non-radioactive isotope, where-

10 in

A is NR^{B} ; where

15 R^{B} is hydrogen;

X^1 and X^2 are CR^2 and X^3 , X^4 , X^5 and X^6 are CR^3 or CR^4 , or X^1 and X^2 are CR^2 , X^3 is N and X^4 , X^5 and X^6 are CR^3 ;

20 Y^1 , Y^2 , Y^3 and Y^4 are CR^4 or CR^5 or Y^2 is N and Y^1 , Y^3 and Y^4 are CR^5 ;

with the proviso that at most one of Y^1 , Y^2 , Y^3 and Y^4 is CR^4 ; and

with the proviso that one of Y^1 , Y^2 , Y^3 and Y^4 is CR^4 or $\text{C}-\text{CF}_3$ if none of X^3 , X^4 , X^5 and X^6 is CR^4 ;

25

R^1 is hydrogen;

each R^2 is hydrogen;

30 each R^3 is independently selected from the group consisting of hydrogen, CN, halogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkoxy and C_1 - C_6 -haloalkoxy;

R⁴ is a C-bound saturated or partially unsaturated monocyclic 5- or 6-membered heterocyclic ring containing 1 heteroatom selected from O and N as ring members, where the heterocyclic ring optionally carries 1 N-bound substituent R⁸;

5

R⁵ is selected from the group consisting of hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl and C₃-C₇-cycloalkyl; and

10

R⁸ independently of each occurrence, is selected from the group consisting of C₁-C₆-alkyl, C₁-C₆-haloalkyl and C₁-C₆-alkoxycarbonyl.

2. The heterocyclic compound according to claim 1, wherein either one of X³, X⁴, X⁵ and X⁶ is CR⁴ and none of Y¹, Y², Y³ and Y⁴ is CR⁴, or one of Y¹, Y², Y³ and Y⁴ is CR⁴ and none of X³, X⁴, X⁵ and X⁶ is CR⁴.

15

3. The heterocyclic compound according to claim 1, wherein one of Y¹, Y², Y³ and Y⁴ is CR⁴ if none of X³, X⁴, X⁵ and X⁶ is CR⁴.

20

4. The heterocyclic compound according to claim 1, wherein one of Y¹, Y², Y³ and Y⁴ is C-CF₃ if none of X³, X⁴, X⁵ and X⁶ is CR⁴.

25

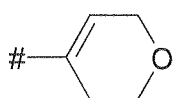
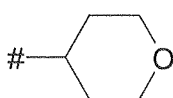
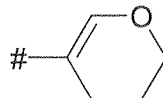
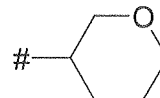
5. The heterocyclic compound according to any of the preceding claims, where R⁴ is selected from C-bound pyrrolidinyl, pyrrolinyl, tetrahydropyranyl, dihydropyranyl, piperidinyl, tetrahydropyridinyl and dihydropyridinyl, where the heterocyclic ring optionally carries 1 N-bound substituent R⁸.

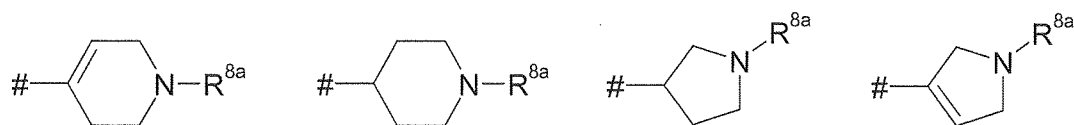
30

6. The heterocyclic compound according to claim 5, where R⁴ is selected from pyrrolidin-3-yl, pyrrolin-3-yl, tetrahydropyran-4-yl, tetrahydropyran-3-yl, dihydropyran-4-yl, dihydropyran-3-yl, piperidin-4-yl, 1,2,5,6-tetrahydropyridin-4-yl and 1,2-dihydropyridin-4-yl, where the heterocyclic ring optionally carries 1 substituent R⁸.

7. The heterocyclic compound according to any of the preceding claims, where R⁴ is selected from following structures:

35

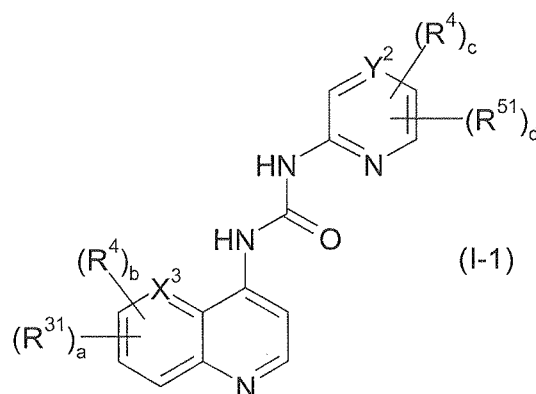




where

- 5 R^{8a} is hydrogen or has one of the meanings given in claims 1 for R^8 ; and
 # is the attachment point to the remainder of the molecule.

8. The heterocyclic compound according to any of the preceding claims, where 0, 1 or 2 of the radicals R^3 are different from hydrogen.
- 10 9. The heterocyclic compound according to any of the preceding claims, where R^5 is selected from hydrogen, fluorinated C_1 - C_2 -alkyl and C_3 - C_6 -cycloalkyl.
10. The heterocyclic compound according to any of the preceding claims, where at
 15 most one of the radicals R^5 is different from hydrogen.
11. The heterocyclic compound according to any of the preceding claims, of formula I-1

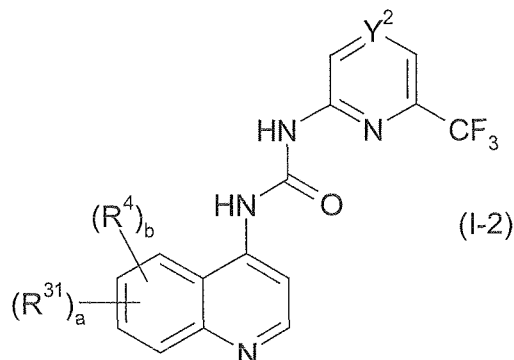


where

- 20 X^3 is N or CH;
 Y^2 is N or CH;
 R^{31} has one of the meanings given in claims 1 or 8 for R^3 except for hydrogen,
 25 and is preferably halogen, C_1 - C_4 -alkyl or C_1 - C_4 -alkoxy;
 R^4 has one of the meanings given in claims 1 or 5 to 7;
 R^{51} has one of the meanings given in claims 1, 9 or 10 for R^5 except for hydrogen;
 a is 0, 1 or 2; and

b, c and d are independently of each other 0 or 1, with the proviso that one of b and c is 1.

12. The heterocyclic compound according to any of the preceding claims, of formula I-2



where

Y^2 is N or preferably CH;

R^{31} has one of the meanings given in claims 1 or 8 for R^3 except for hydrogen, and is preferably selected from the group consisting of halogen, trifluoromethyl, cyano or methoxy;

R^4 has one of the meanings given in claims 1 or 5 to 7;

a is 0, 1 or 2;

b is 0 or 1.

13. The heterocyclic compound according to claim 12, where Y^2 is CH, b is 0 and a is 0, 1 or 2 and where R^{31} , if present, is selected from the group consisting of halogen, trifluoromethyl, cyano and methoxy.

14. A heterocyclic compound selected from the group consisting of
 1-(6-(3,6-dihydro-2H-pyran-4-yl)pyridin-2-yl)-3-(8-fluoroquinolin-4-yl)urea,
 1-(8-fluoroquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-4-yl)pyridin-2-yl)urea,
 1-(6-(3,4-dihydro-2H-pyran-5-yl)pyridin-2-yl)-3-(8-fluoroquinolin-4-yl)urea,
 1-(6-(3,6-dihydro-2H-pyran-4-yl)pyridin-2-yl)-3-(7-methoxyquinolin-4-yl)urea,
 1-(6-(3,4-dihydro-2H-pyran-5-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
 1-(7-(3,6-dihydro-2H-pyran-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
 1-(6-(tetrahydro-2H-pyran-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
 1-(7-methoxyquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-4-yl)pyridin-2-yl)urea,

- 1-(7-(tetrahydro-2H-pyran-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 1-(6-(tetrahydro-2H-pyran-3-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 5 1-(7-(3,6-dihydro-2H-pyran-4-yl)quinolin-4-yl)-3-(pyrazin-2-yl)urea,
- 1-(6-(3,4-dihydro-2H-pyran-5-yl)pyridin-2-yl)-3-(7-methoxyquinolin-4-yl)urea,
- 1-(7-methoxyquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-3-yl)pyridin-2-yl)urea,
- 1-(pyrazin-2-yl)-3-(7-(tetrahydro-2H-pyran-4-yl)quinolin-4-yl)urea,
- 1-(7-(3,4-dihydro-2H-pyran-5-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)-urea,
- 10 urea,
- 1-(6-bromo-quinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(6-(trifluoromethyl)pyridin-2-yl)-3-quinolin-4-yl-urea,
- 1-(6,8-difluoroquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(7-bromoquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 15 1-(7-trifluoromethylquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(7-methoxyquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(8-trifluoromethylquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(8-cyanoquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(8-iodoquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 20 tert-butyl 4-{4-[3-(6-trifluoromethyl-pyridin-2-yl)-ureido]-quinolin-6-yl}-3,6-dihydro-2H-pyridine-1-carboxylate,
- 1-[6-(1,2,3,6-tetrahydro-pyridin-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-(6-(piperidin-4-yl)quinolin-4-yl)-3-(6-(trifluoromethyl)pyridin-2-yl)urea,
- 25 1-[6-(1-methyl-1,2,3,6-tetrahydro-pyridin-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-[6-(1-methyl-piperidin-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-[6-[1-(2-fluoro-ethyl)-piperidin-4-yl]-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 30 1-{6-[1-(2,2-difluoro-ethyl)-piperidin-4-yl]-quinolin-4-yl}-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-[6-(3,6-dihydro-2H-pyran-4-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-urea,
- 1-[6-(3,6-dihydro-2H-pyran-4-yl)-quinolin-4-yl]-3-pyrazin-2-yl-urea,
- 35 tert-butyl 4-[4-(3-pyrazin-2-ylureido)quinolin-6-yl]-5,6-dihydropyridine-1(2H)-carboxylate,
- 1-pyrazin-2-yl-3-[6-(1,2,3,6-tetrahydro-pyridin-4-yl)-quinolin-4-yl]-urea,
- 1-(6-piperidin-4-yl-quinolin-4-yl)-3-pyrazin-2-yl-urea,
- 1-[6-[1-(2-fluoro-ethyl)-piperidin-4-yl]-quinolin-4-yl]-3-pyrazin-2-yl-urea,

- 1-[6-(1-methyl-piperidin-4-yl)-quinolin-4-yl]-3-pyrazin-2-yl-urea,
tert-butyl 4-{4-[3-(6-cyclopropyl-pyrazin-2-yl)-ureido]-quinolin-6-yl}-3,6-dihydro-
2H-pyridine-1-carboxylate,
tert-butyl 4-{4-[3-(6-cyclopropyl-pyrazin-2-yl)-ureido]-quinolin-6-yl}-piperidine-1-
5 carboxylate,
1-(6-cyclopropyl-pyrazin-2-yl)-3-(6-piperidin-4-yl-quinolin-4-yl)-urea,
1-(6-cyclopropyl-pyrazin-2-yl)-3-[6-(1-methyl-piperidin-4-yl)-quinolin-4-yl]-urea,
tert-butyl 3-{4-[3-(6-Trifluoromethyl-pyridin-2-yl)-ureido]-quinolin-6-yl}-2,5-dihydro-
pyrrole-1-carboxylate,
10 1-[6-(2,5-dihydro-1H-pyrrol-3-yl)-quinolin-4-yl]-3-(6-trifluoromethyl-pyridin-2-yl)-
urea,
1-[6-(3,6-dihydro-2H-pyran-4-yl)-pyridin-2-yl]-3-(8-fluoro-quinolin-4-yl)-urea,
1-(8-fluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-(8-chloro-6-methyl-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
15 1-(6,8-dichloro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-(6,8-difluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-(8-chloro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-[1,5]naphthyridin-4-yl-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-(5,8-difluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
20 1-(8-fluoro-6-methoxy-quinolin-4-yl)-3-[6-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,
1-[6-(5,6-dihydro-4H-pyran-3-yl)-pyridin-2-yl]-3-(8-fluoro-quinolin-4-yl)-urea,
1-(8-fluoro-quinolin-4-yl)-3-[6-(tetrahydro-pyran-3-yl)-pyridin-2-yl]-urea,
1-[6-(3,6-dihydro-2H-pyran-4-yl)-pyridin-2-yl]-3-[1,5]naphthyridin-4-yl-urea,
tert-butyl-6-[3-(8-fluoro-quinolin-4-yl)-ureido]-3',6'-dihydro-2'H-[2,4']bipyridinyl-1'-
25 carboxylate,
1-(8-fluoro-quinolin-4-yl)-3-(1',2',3',6'-tetrahydro-[2,4']bipyridinyl-6-yl)-urea,
tert-butyl-6-[3-(8-fluoro-quinolin-4-yl)-ureido]-3',4',5',6'-tetrahydro-2'H-
[2,4']bipyridinyl-1'-carboxylate,
1-(8-fluoro-quinolin-4-yl)-3-(1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl)-urea,
30 1-(8-fluoro-quinolin-4-yl)-3-(1'-methyl-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-
yl)-urea,
1-[1'-(2-fluoro-ethyl)-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl]-3-(8-fluoro-
quinolin-4-yl)-urea,
1-[1'-(2,2-difluoro-ethyl)-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl]-3-(8-fluoro-
35 quinolin-4-yl)-urea,
1-(8-fluoro-quinolin-4-yl)-3-(1'-isopropyl-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-
6-yl)-urea,
1-(8-fluoro-quinolin-4-yl)-3-[5-(tetrahydro-pyran-4-yl)-pyridin-2-yl]-urea,

tert-butyl-3-[4-(3-pyrazin-2-yl-ureido)-quinolin-6-yl]-2,5-dihydro-pyrrole-1-carboxylate,

tert-butyl-3-[4-(3-pyrazin-2-yl-ureido)-quinolin-6-yl]-pyrrolidine-1-carboxylate, 1-pyrazin-2-yl-3-(6-pyrrolidin-3-yl-quinolin-4-yl)-urea,

5 the stereoisomers, N-oxides, tautomers or physiologically tolerated acid addition salts thereof.

15 15. The heterocyclic compound according to claim 14, selected from 1-(7-methoxyquinolin-4-yl)-3-(6-trifluoromethyl-pyridin-2-yl)-urea the stereoisomers, N-oxides, tautomers or physiologically tolerated acid addition salts thereof.

15 16. The heterocyclic compound according to claim 14, selected from 1-(8-fluoroquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-4-yl)pyridin-2-yl)urea, the stereoisomers, N-oxides, tautomers and physiologically tolerated acid addition salts thereof.

20 17. The heterocyclic compound according to claim 14, selected from 1-[1'-(2-fluoroethyl)-1',2',3',4',5',6'-hexahydro-[2,4']bipyridinyl-6-yl]-3-(8-fluoro-quinolin-4-yl)-urea, the stereoisomers, N-oxides, tautomers and physiologically tolerated acid addition salts thereof.

25 18. The heterocyclic compound according to claim 14, selected from 1-(7-methoxyquinolin-4-yl)-3-(6-(tetrahydro-2H-pyran-3-yl)pyridin-2-yl)urea, the stereoisomers, tautomers and physiologically tolerated acid addition salts thereof.

19. The heterocyclic compound according to claim 14, selected from 1-(8-fluoroquinolin-4-yl)-3-(1',2',3',6'-tetrahydro-[2,4']bipyridinyl-6-yl)-urea, the stereoisomers, tautomers and physiologically tolerated acid addition salts thereof.

30 20. A pharmaceutical composition comprising at least one heterocyclic compound as defined in any of the preceding claims, a stereoisomer, N-oxide, tautomer and/or physiologically tolerated acid addition salt thereof, and at least one physiologically acceptable carrier and/or auxiliary substance.

35 21. The heterocyclic compounds as defined in any of claims 1 to 19 or the stereoisomers, N-oxides, tautomers or physiologically tolerated acid addition salts thereof for use as a medicament.

22. The heterocyclic compounds as defined in any of claims 1 to 19 or the stereoisomers, N-oxides, tautomers or physiologically tolerated acid addition salts thereof for use in the treatment of a neurodegenerative disorder or an inflammatory disorder.
- 5
23. The use of the heterocyclic compound as defined in any of claims 1 to 19 or of a stereoisomer, N-oxide, tautomer or physiologically tolerated acid addition salt thereof for the preparation of a medicament for the treatment of a neurodegenerative disorder or an inflammatory disorder.
- 10
24. The heterocyclic compounds according to claim 23, where the medical disorder is selected from schizophrenia, Alzheimer's disease, behavioural and psychiatric symptoms of dementia, Parkinson's disease, tauopathies, vascular dementia, acute stroke and other traumatic injuries, cerebrovascular accidents, brain and spinal cord trauma, peripheral neuropathies, bipolar disorders, retinopathies, glaucoma, pain, rheumatoid arthritis and osteoarthritis.
- 15
25. The use according to claim 24, where the medical disorder is selected from schizophrenia, Alzheimer's disease, behavioural and psychiatric symptoms of dementia, Parkinson's disease, tauopathies, vascular dementia, acute stroke and other traumatic injuries, cerebrovascular accidents, brain and spinal cord trauma, peripheral neuropathies, bipolar disorders, retinopathies, glaucoma, pain, rheumatoid arthritis and osteoarthritis.
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- 25