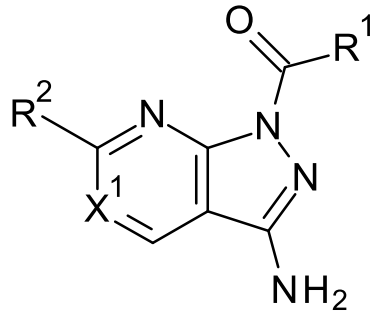
Claims

1. A compound formula I:



(I)

wherein

X^1 is either N or CR^3;

R^1 is:

- $(C_3\text{-}C_8)$cycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1a},
- -heteroaryl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1b},
- heterocycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1c};or
- phenyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1d};

R^{1a}, R^{1b}, R^{1c} and R^{1d} are each independently selected from halogen, oxo, cyano, hydroxyl, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, $(C_3\text{-}C_6)$cycloalkyl, $(C_3\text{-}C_6)$cycloalkyl-$(C_1\text{-}C_6)$alkyl, halo$(C_1\text{-}C_6)$alkyl, halo$(C_1\text{-}C_6)$alkoxy, hydroxy$(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy-$(C_1\text{-}C_6)$alkyl, heteroaryl, heterocycloalkyl and phenyl;

R^2 is $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, halo$(C_1\text{-}C_6)$alkyl, halo$(C_1\text{-}C_6)$alkoxy, $(C_3\text{-}C_6)$cycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{2a}, heterocycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{2b} or phenyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{2c};

R^{2a}, R^{2b} and R^{2c} are each independently selected from halogen, (C_1-C_6)alkyl, (C_1-C_6)alkoxy, halo(C_1-C_6)alkyl and halo(C_1-C_6)alkoxy;

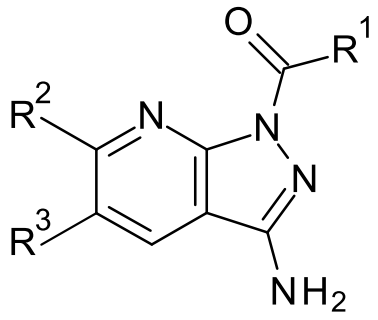
R^3 is hydrogen, halogen or (C_1-C_6)alkyl;

or R^2 and R^3 together form C_{2-7}-alkylene optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{3f} and

R^{3f} are each independently selected from halogen, (C_1-C_6)alkyl, halo(C_1-C_6)alkyl;

and pharmaceutically acceptable salts thereof.

2. A compound according to claim 1, wherein the compound is of formula I':



(I')

R^1 is:

- (C_3-C_8)cycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1a},
- -heteroaryl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1b},
- heterocycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1c};or
- phenyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{1d};

R^{1a}, R^{1b}, R^{1c} and R^{1d} are each independently selected from halogen, oxo, cyano, hydroxyl, (C_1-C_6)alkyl, (C_1-C_6)alkoxy, (C_3-C_6)cycloalkyl, (C_3-C_6)cycloalkyl-(C_1-C_6)alkyl, halo(C_1-C_6)alkyl, halo(C_1-C_6)alkoxy, hydroxy(C_1-C_6)alkyl, (C_1-C_6)alkoxy-(C_1-C_6)alkyl, heteroaryl, heterocycloalkyl and phenyl;

R^2 is (C_1-C_6)alkyl, halo(C_1-C_6)alkyl, (C_3-C_6)cycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{2a}, heterocycloalkyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{2b} or phenyl optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{2c};

R^{2a}, R^{2b} and R^{2c} are each independently selected from halogen, (C_1-C_6)alkyl, (C_1-C_6)alkoxy, halo(C_1-C_6)alkyl and halo(C_1-C_6)alkoxy;

R^3 is hydrogen, halogen or (C_1-C_6)alkyl;

or R^2 and R^3 together form C_{2-7}-alkylene optionally substituted with one or more, particularly one to three, more particularly one or two substituents R^{3f} and

R^{3f} are each independently selected from halogen, (C_1-C_6)alkyl, and halo(C_1-C_6)alkyl;

and pharmaceutically acceptable salts thereof.

3. The compound according to claim 1, wherein X^1 is CR^3.
4. The compound according to any one of claims 1 to 3, wherein R^1 is (C_3-C_8)cycloalkyl optionally substituted with one substituents R^{1a}, heteroaryl optionally substituted with one R^{1b}, heterocycloalkyl optionally substituted with one or two R^{1c} or phenyl optionally substituted with one or two R^{1d};.
5. The compound according to any one of claims 1 to 4, wherein R^1 is (C_3-C_6)cycloalkyl optionally substituted with one R^{1a}, pyridinyl optionally substituted with one R^{1b}, pyrazinyl optionally substituted with one R^{1b}, pyridizanyl optionally substituted with one R^{1b}, thiazolyl optionally substituted with one R^{1b}, 1,3-benzodioxolyl optionally substituted with one R^{1c}, oxazolyl optionally substituted with one R^{1c}, piperidinyl optionally substituted with one R^{1c}, tetrahydrofuranyl optionally substituted with one R^{1c}, tetrahydropyranyl optionally substituted with one R^{1c} or phenyl optionally substituted with one or two R^{1d},.

6. The compound according to any one of claims 1 to 5, wherein wherein R^1 is cyclohexyl optionally substituted with one R^{1a}, pyridinyl optionally substituted with one R^{1b}, pyrazinyl optionally substituted with one R^{1b}, pyridizanyl optionally substituted with one R^{1b}, thiazolyl optionally substituted with one R^{1b}, 1,3-benzodioxolyl, oxazolyl optionally substituted with one R^{1c}, piperidinyl optionally substituted with one R^{1c},

tetrahydrofuranyl optionally substituted with one R^{1c}, tetrahydropyranyl or phenyl optionally substituted with one or two R^{1d}.

7. The compound according to any one of claims 1 to 6, wherein R^1 is pyridinyl optionally substituted with one R^{1b} or phenyl optionally substituted with one or two R^{1d}.
8. The compound according to any one of claims 1 to 4, wherein R^1 is heteroaryl optionally substituted with one R^{1b} or phenyl optionally substituted with one or two R^{1d}.
9. The compound according to any one of claims 1 to 8, wherein R^{1a}, R^{1b}, R^{1c} and R^{1d} are each independently selected from halogen, oxo, cyano, $(C_1\text{-}C_6)$alkyl, $(C_1\text{-}C_6)$alkoxy, halo$(C_1\text{-}C_6)$alkyl and halo$(C_1\text{-}C_6)$alkoxy.
10. The compound according to any one of claims 1 to 9, wherein R^{1a}, R^{1b}, R^{1c} and R^{1d} are each independently selected from halogen, oxo, cyano, $(C_1\text{-}C_3)$alkyl, $(C_1\text{-}C_3)$alkoxy, halo$(C_1\text{-}C_3)$alkyl and halo$(C_1\text{-}C_3)$alkoxy.
11. The compound according to any one of claims 1 to 10, wherein R^{1a}, R^{1b}, R^{1c} and R^{1d} are each independently selected from chloro, fluoro, oxo, cyano, methyl, ethyl, methoxy, trifluoromethyl and difluoromethyl.
12. The compound according to any one of claims 1 to 7, wherein R^{1a}, R^{1b}, R^{1c} and R^{1d} are each independently selected from chloro, fluoro, cyano, methyl and methoxy.¨
13. The compound according to any one of claims 1 to 9, wherein R^{1b} and R^{1d} are each independently selected from halogen, cyano, $(C_1\text{-}C_3)$alkyl, $(C_1\text{-}C_3)$alkoxy, halo$(C_1\text{-}C_3)$alkyl and halo$(C_1\text{-}C_3)$alkoxy.
14. The compound according to any one of claims 1 to 9 or 13, wherein R^{1b} are each independently selected from halogen, $(C_1\text{-}C_3)$alkyl, $(C_1\text{-}C_3)$alkoxy and halo$(C_1\text{-}C_3)$alkyl and wherein R^{1d} are each independently selected from halogen, cyano, $(C_1\text{-}C_3)$alkyl, $(C_1\text{-}C_3)$alkoxy, halo$(C_1\text{-}C_3)$alkyl and halo$(C_1\text{-}C_3)$alkoxy.
15. The compound according to any one of claims 1 to 14, wherein R^{1b} are each independently selected from chloro, methyl and methoxy and wherein R^{1d} are each independently selected from fluoro, cyano, methyl and methoxy.
16. The compound according to any one of claims 1 to 15, R^1 is 2-methoxyphenyl, 2-chlorophenyl, 2-methylphenyl, 1,3-benzodioxol-4-yl, 3-fluoro-2-methylphenyl, 2,3-dimethylphenyl, cyclohexyl, 2-methoxycyclohexyl, 3-fluoro-2-methoxyphenyl, 4-fluoro-2-methoxyphenyl, 3-methyl-2-oxopiperidin-4-yl, 2-ethylphenyl, 2-(difluoromethoxy)phenyl, 5-methyl-1,3-oxazol-4-yl, 4-methyl-1,3-thiazol-5-yl, 2-methyloxolan-3-yl, 3-methyl-tetrahydrofuran-2-yl, 3-cyano-2-methylphenyl, oxan-4-yl, 2-methylpyridin-3-yl, 2-oxopiperidin-4-yl, 2-methoxy-3-methylphenyl, 3-chloro-2-methoxyphenyl, 3-cyano-2-methoxyphenyl, oxan-3-yl, 3-methylpyrazin-2-yl, 2-

methoxypyridin-3-yl, 2-chloropyridin-3-yl, 2-(trifluoromethyl)pyridin-3-yl, 3-methylpyridazin-4-yl, 3-methyl-1,2-thiazol-4-yl or 3-methyltetrahydrofuran-2-yl.

17. The compound according to any one of claims 1 to 16, wherein R^1 is 2-methoxyphenyl, 3-fluoro-2-methoxyphenyl, 2-methylpyridin-3-yl, 3-cyano-2-methoxyphenyl, 2-methoxypyridin-3-yl, 2-chloropyridin-3-yl or 2-methylphenyl.
18. The compound according to any one of claims 1 to 17, wherein R^2 is $(C_1\text{-}C_6)$alkyl, halo$(C_1\text{-}C_6)$alkyl, $(C_3\text{-}C_6)$cycloalkyl optionally substituted with one or two substituents R^{2a}, heterocycloalkyl optionally substituted with one or two substituents R^{2b} or phenyl.
19. The compound according to any one of claims 1 to 18, wherein R^2 is $(C_1\text{-}C_3)$alkyl, halo$(C_1\text{-}C_3)$alkyl, cyclopropyl optionally substituted with one or two substituents R^{2a}, cyclobutyl, cyclopentyl, cyclopentenyl,cylcohexenyl, azetidinyl optionally substituted with one or two substituents R^{2b}, dihydrofuranyl, dihydropyranyl, azabicyclo[2.2.1]heptanyl, -azabicyclo[2.2.1]heptanyl, pyrrolidinyl, azetidinyl optionally substituted with one or two substituents R^{2b} or phenyl.
20. The compound according to any one of claims 1 to 19, wherein R^2 is i-butyl, t-butyl, trifluoromethyl, cyclopropyl optionally substituted with one or two substituents R^{2a}, cyclobutyl, cyclopentyl, cyclopentenyl, cylcohexenyl, azetidinyl optionally substituted with one or two substituents R^{2b}, 2,5-dihydrofuran-3-yl, 3,4-dihydro-pyran-6-yl, 2-azabicyclo[2.2.1]heptan-2-yl, 7-azabicyclo[2.2.1]heptan-7-yl, pyrrolidinyl or phenyl.
21. The compound according to any one of claims 1 to 17, wherein R^2 is halo$(C_1\text{-}C_6)$alkyl, $(C_3\text{-}C_6)$cycloalkyl optionally substituted with one or two substituents R^{2a} or heterocycloalkyl optionally substituted with one or two substituents R^{2b}.
22. The compound according to any one of claims 1 to 21, wherein R^{2a}, R^{2b} and R^{2c} are each independently selected from halogen, $(C_1\text{-}C_3)$alkyl and halo$(C_1\text{-}C_3)$alkyl.
23. The compound according to any one of claims 1 to 22, wherein R^{2a}, R^{2b} and R^{2c} are each independently selected from fluoro, methyl and trifluoromethyl.
24. The compound according to any one of claims 1 to 23, wherein R^{2a} are each independently selected from fluoro, methyl and trifluoromethyl, R^{2b} are each fluoro.
25. The compound according to any one of claims 1 to 24, wherein R^2 is i-butyl, t-butyl, trifluoromethyl, cyclopropyl optionally substituted with one or two substituents selected from fluoro, methyl or trifluoromethyl, cyclobutyl, cyclopentyl, cyclopenten-1-yl, cylcohexen-1-yl, azetidinyl optionally substituted with two fluoro, 2,5-dihydrofuran-3-yl, 3,4-dihydro-pyran-6-yl, 2-azabicyclo[2.2.1]heptan-2-yl, 7-azabicyclo[2.2.1]heptan-7-yl, pyrrolidinyl or phenyl.

26. The compound according to any one of claims 1 to 25, wherein R^2 is trifluoromethyl, cylcopropyl, cyclobutyl, cyclopenten-1-yl, 2-fluorocyclopropyl, 2,2-difluorocyclopropyl, 2-(trifluoromethyl)cyclopropyl, 2,3-dimethylcyclopropyl, 1-methylcyclopropyl or 3,4-dihydro-pyran-6-yl.

27. The compound according to any one of claims 1 to 26, wherein R^2 is phenyl, 2-methylpropyl, pyrrolidin-1-yl, cyclopropyl, cyclohexen-1-yl, 3,4-dihydro-2-pyran-6-yl, cyclopenten-1-yl, azetidin-1-yl, trifluoromethyl, 3,3-difluoroazetidin-1-yl, cyclopentyl, cyclobutyl, 2-methylcyclopropyl, 2,5-dihydrofuran-3-yl, 2-fluorocyclopropyl, 2,2-difluorocyclopropyl, 2-(trifluoromethyl)cyclopropyl, 2,3-dimethylcyclopropyl, 1-methylcyclopropyl, 2-azabicyclo[2.2.1]heptan-2-yl, 7-azabicyclo[2.2.1]heptan-7-yl or t-butyl.

28. The compound according to any one of claims 1 to 26, wherein R^2 is cyclopropyl, cyclopenten-1-yl, trifluoromethyl or cyclobutyl, 2,5-dihydrofuran-3-yl.

29. The compound according to any one of claims 1 to 28, wherein R^3 is hydrogen or halogen.

30. The compound according to any one of claims 1 to 29, wherein R^3 is hydrogen, chloro or fluoro.

31. The compound according to any one of claims 1 to 30, wherein R^3 is hydrogen.

32. The compound according to any one of claims 1 to 31, selected from the group consisting of:

(3-amino-6-phenyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-isobutyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-chlorophenyl)methanone
(3-amino-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone
[3-amino-6-(cyclohexen-1-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone
(3-amino-6-cyclopropylpyrazolo[3,4-b]pyridin-1-yl)-(2-methoxyphenyl)methanone 2,2,2-trifluoroacetic acid
(3-amino-5-chloro-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-5-chloro-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone
(3-amino-5-fluoro-6-phenyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-5-fluoro-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-5-fluoro-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-chlorophenyl)methanone
(3-amino-5-fluoro-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone

(3-amino-6-(3,3-difluoroazetidin-1-yl)-5-fluoro-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(tert-butyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)(o-tolyl)methanone

(3-amino-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)(2-chlorophenyl)methanone

(3-amino-6-cyclopropylpyrazolo[3,4-b]pyridin-1-yl)-(1,3-benzodioxol-4-yl)methanone

(3-amino-6-cyclopropylpyrazolo[3,4-b]pyridin-1-yl)-(2-methylphenyl)methanone

(3-amino-7,7-dimethyl-5,6,7,8-tetrahydro-1H-pyrazolo[3,4-b]quinolin-1-yl)(2-methoxyphenyl)methanone

[3-amino-6-(3,4-dihydro-2H-pyran-6-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone

[3-amino-6-(cyclopenten-1-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone

(3-amino-6-(azetidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(trifluoromethyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone

(3-amino-6-(trifluoromethyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(3,3-difluoroazetidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(3,3-difluoroazetidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone

(3-amino-6-cyclopentylpyrazolo[3,4-b]pyridin-1-yl)-(2-methylphenyl)methanone

[3-amino-6-(cyclopenten-1-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methylphenyl)methanone

(3-amino-6-cyclobutyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone

(3-amino-6-cyclobutyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-fluoro-2-methylphenyl)methanone

(3-amino-6-((1RS,2RS)-2-methylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone

(3-amino-6-((1RS,2RS)-2-methylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2,3-dimethylphenyl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(cyclohexyl)methanone

[3-amino-6-(2,5-dihydrofuran-3-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone

[3-amino-6-(2,5-dihydrofuran-3-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxycyclohexyl)methanone

(3-amino-7-methyl-5,6,7,8-tetrahydro-1H-pyrazolo[3,4-b]quinolin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-((trans)-2-fluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-fluoro-2-methoxyphenyl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(4-fluoro-2-methoxyphenyl)methanone

(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone

(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone
[3-amino-6-[rac-(1R,2R)-2-(trifluoromethyl)cyclopropyl]pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone
(3-amino-6-((1r,2R,3S)-2,3-dimethylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone
(3-amino-6-((1r,2R,3S)-2,3-dimethylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-fluoro-2-methoxyphenyl)methanone
(3-amino-5-fluoro-6-(pyrrolidin-1-yl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-fluoro-2-methoxyphenyl)methanone
[3-amino-6-(2,5-dihydrofuran-3-yl)pyrazolo[3,4-b]pyridin-1-yl]-(3-fluoro-2-methoxyphenyl)methanone
rac-(cis)-4-(3-amino-6-cyclopropylpyrazolo[3,4-b]pyridine-1-carbonyl)-3-methylpiperidin-2-one
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-ethylphenyl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-(difluoromethoxy)phenyl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(5-methyloxazol-4-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(4-methylthiazol-5-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methyltetrahydrofuran-3-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)((2S,3R)-2-methyltetrahydrofuran-3-yl)methanone
3-(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridine-1-carbonyl)-2-methylbenzonitrile
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(tetrahydro-2H-pyran-4-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methylpyridin-3-yl)methanone
4-(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridine-1-carbonyl)piperidin-2-one
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxy-3-methylphenyl)methanone
(3-amino-6-(1-methylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone
(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methylpyridin-3-yl)methanone
(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methyltetrahydrofuran-3-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-chloro-2-methoxyphenyl)methanone
3-(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridine-1-carbonyl)-2-methoxybenzonitrile
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(tetrahydro-2H-pyran-3-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-methylpyrazin-2-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxypyridin-3-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-chloropyridin-3-yl)methanone

(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-(trifluoromethyl)pyridin-3-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-methylpyridazin-4-yl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(3-methylisothiazol-4-yl)methanone
[3-amino-6-[(1R,4S)-3-azabicyclo[2.2.1]heptan-3-yl]pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)((2R,3S)-3-methyltetrahydrofuran-2-yl)methanone and
[3-amino-6-(7-azabicyclo[2.2.1]heptan-7-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone.

33. The compound according to any one of claims 1 to 32, selected from the group consisting of:

(3-amino-6-cyclopropylpyrazolo[3,4-b]pyridin-1-yl)-(2-methoxyphenyl)methanone 2,2,2-trifluoroacetic acid
(3-amino-6-cyclopropylpyrazolo[3,4-b]pyridin-1-yl)-(2-methylphenyl)methanone
[3-amino-6-(cyclopenten-1-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methoxyphenyl)methanone
(3-amino-6-(trifluoromethyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
[3-amino-6-(cyclopenten-1-yl)pyrazolo[3,4-b]pyridin-1-yl]-(2-methylphenyl)methanone
(3-amino-6-cyclobutyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-((1RS,2RS)-2-methylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(o-tolyl)methanone
(3-amino-6-((1RS,2RS)-2-methylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
(3-amino-6-((1r,2R,3S)-2,3-dimethylcyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxyphenyl)methanone
[3-amino-6-(2,5-dihydrofuran-3-yl)pyrazolo[3,4-b]pyridin-1-yl]-(3-fluoro-2-methoxyphenyl)methanone
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methylpyridin-3-yl)methanone
(3-amino-6-(2,2-difluorocyclopropyl)-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methylpyridin-3-yl)methanone
3-(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridine-1-carbonyl)-2-methoxybenzonitrile
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-methoxypyridin-3-yl)methanone and
(3-amino-6-cyclopropyl-1H-pyrazolo[3,4-b]pyridin-1-yl)(2-chloropyridin-3-yl)methanone.

34. A compound according to any one of claims 1 to 33 for use as a therapeutically active substance.

35. Pharmaceutical compositions comprising compounds of formula I or I' according to any one of claims 1 to 33 or their pharmaceutically acceptable salts and one or more pharmaceutically acceptable excipients.
36. Compounds of formula I or I' according to any one of claims 1 to 33 or their pharmaceutically acceptable salts above for use as therapeutically active substances.
37. Compounds of formula I or I' according to any one of claims 1 to 33 or their pharmaceutically acceptable salts for the use in the treatment, prevention and/or delay of progression of Lung Aenocarcinoma, Melanoma, Pancreatic Adenocarcinoma, Head and Neck Squamous Cell Carcinoma, Lung Squamous Cell Carcinoma, Esophageal Carcinoma, Glioblastoma Multiforme, and Mesothelioma.
38. Compounds according to claim 37, for the use in the treatment, prevention and/or delay of progression of Lung Adenocarcinoma, Lung Squamous Carcinoma, Pancreatic Adenocarcinoma, Glioblastoma Multiforme, and Head and Neck Squamous Carcinoma.
39. A method for the treatment or prevention of Lung Aenocarcinoma, Melanoma, Pancreatic Adenocarcinoma, Head and Neck Squamous Cell Carcinoma, Lung Squamous Cell Carcinoma, Esophageal Carcinoma, Glioblastamo Multiforme, and Mesothelioma, which method comprises administering compounds of formula I according to any one of claims 1 to 33 or their pharmaceutically acceptable salts as defined above to a subject.
40. The method according to claim 39 for the treatment or prevention of Lung Adenocarcinoma, Lung Squamous Carcinoma, Pancreatic Adenocarcinoma, Glioblastoma Multiforme, and Head and Neck Squamous Carcinoma.
41. The use of compounds of formula I according to any one of claims 1 to 33 or their pharmaceutically acceptable salts for the treatment, prevention and/or delay of progression of Lung Aenocarcinoma, Melanoma, Pancreatic Adenocarcinoma, Head and Neck Squamous Cell Carcinoma, Lung Squamous Cell Carcinoma, Esophageal Carcinoma, Glioblastoma Multiforme, and Mesothelioma.
42. The use of compounds according to claim 41, for the treatment, prevention and/or delay of progression of Lung Adenocarcinoma, Lung Squamous Carcinoma, Pancreatic Adenocarcinoma, Glioblastoma Multiforme, and Head and Neck Squamous Carcinoma.
43. The use of compounds of formula I according to any one of claims 1 to 33 or their pharmaceutically acceptable salts for the preparation of medicaments for the treatment or prevention of Lung Aenocarcinoma, Melanoma, Pancreatic Adenocarcinoma, Head and Neck Squamous Cell Carcinoma, Lung Squamous Cell Carcinoma, Esophageal Carcinoma, Glioblastoma Multiforme, and Mesothelioma.

44. The use of compounds according to claim 43, for the treatment, prevention and/or delay of progression of Lung Adenocarcinoma, Lung Squamous Carcinoma, Pancreatic Adenocarcinoma, Glioblastoma Multiforme, and Head and Neck Squamous Carcinoma.

~~45. The invention as hereinbefore described.~~