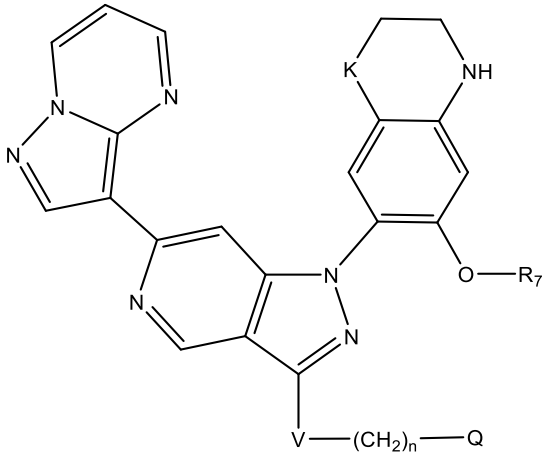
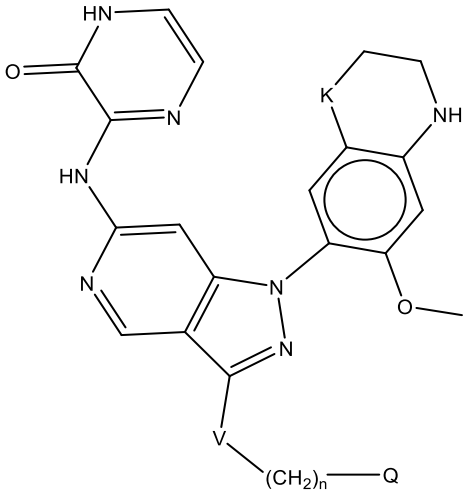
CLAIMS

1. A compound of formula I-1 or I-2

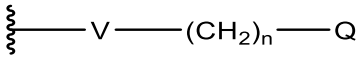


I-1



I-2

wherein the substituent group



is comprising at least one ester or thioester moiety;

V is a divalent group selected from C(O)O, C(O)N(R_6), N(R_6)C(O)O;

Q is selected from the group consisting of (C_1-C_6)alkoxycarbonyl, -$(CH_2)_mNR_4R_5$, (C_3-C_8)cycloalkyl, and (C_3-C_6)heterocycloalkyl; wherein said (C_3-C_8)cycloalkyl and (C_3-C_6)heterocycloalkyl are optionally substituted by one or more substituent group selected from the group consisting of (C_1-C_6)alkoxycarbonyl$(CH_2)_m$, (C_3-C_8)cycloalkyl-oxycarbonyl, NC-(C_1-C_6) alkoxycarbonyl, (C_1-C_6)haloalkyl-oxycarbonyl, (C_3-C_8)heterocycloalkyl-oxycarbonyl, (C_1-C_6)alkyl(C_3-C_8)heterocycloalkyl-oxycarbonyl, (C_3-C_8)heterocycloalkyl-(C_1-C_6)alkoxycarbonyl, (C_1-C_6)alkyl-(C_3-C_8)heterocycloalkyl-

(C_1-C_6)alkoxycarbonyl, (C_1-C_6)hydroxyalkyl-oxycarbonyl, (C_1-C_6)aminoalkyl-oxycarbonyl, (C_1-C_6)alkoxy-(C_1-C_6)alkyl-oxycarbonyl, (C_1-C_6)alkylthiocarbonyl, NC-(C_3-C_8)cycloalkyl(C_1-C_6)alkoxycarbonyl, NC-(C_3-C_8)cycloalkyl-oxycarbonyl, (C_1-C_6)haloalkyl-(C_3-C_8)heterocycloalkyl-oxycarbonyl, halo-((C_1-C_6)alkyl(C_3-C_8)heterocycloalkyl)-oxycarbonyl, (C_1-C_6)haloalkyl-(C_3-C_8)heterocycloalkyl-(C_1-C_6)alkoxycarbonyl, (C_1-C_6)haloalkyl-(C_3-C_8)heterocycloalkyl-oxycarbonyl-(C_1-C_6)alkyl, (C_1-C_6)hydroxyalkyl-oxycarbonyl-(C_1-C_6)alkyl, (C_1-C_{10})alkyl and halogen;

K is selected from O, CH_2, S;

n and m are in each occurrence independently 0 or an integer selected from 1, 2, 3 and 4;

R_4 and R_5, the same or different, are selected from the group consisting of

H,

(C_1-C_6)alkyl,

(C_1-C_6)haloalkyl,

(C_3-C_6)heterocycloalkyl and

(C_1-C_6)alkyl-(C_3-C_8)heterocycloalkyl;

(C_1-C_6)alkoxycarbonyl-methyl;

(C_1-C_6)alkoxycarbonyl-phenyl-methyl;

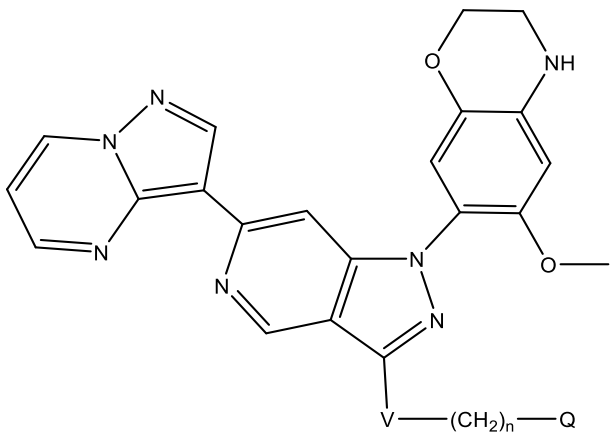
(C_1-C_6)alkoxycarbonyl-(C_1-C_6)alkyl -phenyl-methyl;

R_6 is in each occurrence independently selected from the group consisting of H, (C_1-C_6)alkyl, (C_1-C_6)hydroxyalkyl;

single enantiomers, diastereoisomers and mixtures thereof

or a pharmaceutically acceptable salt or solvate thereof.

2. A compound according to claim 1, wherein K is O; represented by the formula (Ia)



Ia

wherein

V is $C(O)N(R_6)$,

Q is $(C_3\text{-}C_6)$heterocycloalkyl substituted by at least one group selected from $(C_1\text{-}C_6)$alkoxycarbonyl, $(C_3\text{-}C_8)$cycloalkyl-oxycarbonyl, NC-$(C_1\text{-}C_6)$ alkoxycarbonyl, $(C_1\text{-}C_6)$haloalkyl-oxycarbonyl, $(C_1\text{-}C_6)$alkyl$(C_3\text{-}C_8)$heterocycloalkyl-oxycarbonyl, $(C_1\text{-}C_6)$hydroxyalkyl -oxycarbonyl and $(C_1\text{-}C_6)$alkoxy$(C_1\text{-}C_6)$alkyl -oxycarbonyl and $(C_1\text{-}C_6)$alkylthiocarbonyl;

n is in each occurrence independently 0 or an integer selected from 1, 2, 3 and 4;

R_6 is in each occurrence independently selected from the group consisting of H, $(C_1\text{-}C_6)$alkyl and $(C_1\text{-}C_6)$hydroxyalkyl;

single enantiomers, diastereoisomers and mixtures thereof

or a pharmaceutically acceptable salt or solvate thereof.

3. A compound according to claim 2 selected from the list of

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

isopropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

cyclopropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-cyano-2-methylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2,2,2-trifluoroethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

1-methylazetidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

3-hydroxy-2,2-dimethylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-

benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-hydroxy-2-methylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

1-methoxy-2-methylpropan-2-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(R)-1-methylpyrrolidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

S-ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carbothioate

single enantiomers, diastereoisomers and mixtures thereof

or a pharmaceutically acceptable salt or solvate thereof.

4. A compound according to claim 1, wherein

V is a divalent group selected from C(O)O;

Q is selected from the group consisting of $(C_1\text{-}C_6)$alkoxycarbonyl, $\text{-}(CH_2)_mNR_4R_5$, and $(C_3\text{-}C_6)$heterocycloalkyl optionally substituted by one or more group selected from $(C_1\text{-}C_{10})$alkyl and halogen;

n and m are in each occurrence independently 0 or an integer selected from 1, 2, 3 and 4;

R_4 and R_5, the same or different, are selected from the group consisting of

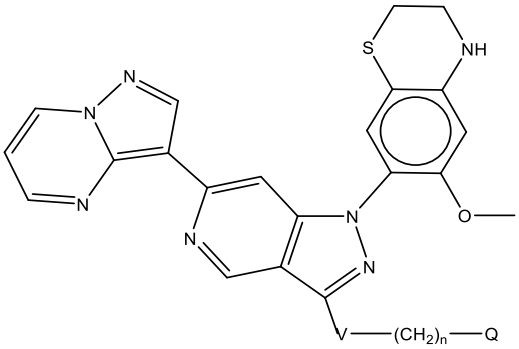
H,

$(C_1\text{-}C_6)$alkyl,

single enantiomers, diastereoisomers and mixtures thereof

or a pharmaceutically acceptable salt or solvate thereof.

5. A compound according to claim 1, wherein K is equal to S, represented by the formula (Ib)



Ib

wherein

V is a divalent group selected from $N(R_6)C(O)O$;

Q is selected from the group consisting of $(C_1\text{-}C_6)$alkoxycarbonyl;

n is an integer selected from 1, 2, 3 and 4;

R_6 is in each occurrence independently selected from the group consisting of H, $(C_1\text{-}C_6)$alkyl;

single enantiomers, diastereoisomers and mixtures thereof

or a pharmaceutically acceptable salt or solvate thereof.

6. A compound according to claim 1 selected from the list of

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]thiazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

ethyl (1s,3s)-3-(((1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]thiazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridin-3-yl)carbamoyl)oxy)cyclobutane-1-carboxylate;

ethyl 2-(((1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]thiazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridin-3-yl)carbamoyl)oxy)acetate;

ethyl 1-(2-(((1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]thiazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridin-3-yl)carbamoyl)oxy)ethyl)piperidine-4-carboxylate;

1-methoxy-2-methylpropan-2-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

propyl N-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)-N-methylglycinate;

3-(dimethylamino)propyl 1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]thiazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxylate;

3-(4-methylpiperazin-1-yl)propyl 1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]thiazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxylate;

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

sec-butyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

cyclopropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

cyclopentyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2,2,2-trifluoroethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-hydroxy-2-methylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

3-hydroxy-2,2-dimethylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-methoxyethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

tetrahydro-2H-pyran-4-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(tetrahydro-2H-pyran-4-yl)methyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(4-methylmorpholin-2-yl)methyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-(dimethylamino)-2-methylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

1-methylazetidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

1-methylpyrrolidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(R)-1-methylpyrrolidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(S)-1-methylpyrrolidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-cyano-2-methylpropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

1-methylpiperidin-4-yl 1-(3-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)propyl)piperidine-4-carboxylate;

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-3-carboxylate;

ethyl 4-fluoro-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

methyl (R)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

methyl (S)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)azetidine-3-carboxylate;

ethyl (3aR,5r,6aS)-2-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)octahydrocyclopenta[c]pyrrole-5-carboxylate;

ethyl (1R,5S,6r)-3-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)-3-azabicyclo[3.1.0]hexane-6-carboxylate;

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)-4-methylpiperidine-4-carboxylate;

ethyl 2-(1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidin-4-yl)acetate;

ethyl 4-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)-1-methylpiperazine-2-carboxylate;

methyl 2-(3-(((2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)(methyl)amino)methyl)phenyl)acetate;

ethyl 1-(2-(1-(7-methoxy-1,2,3,4-tetrahydroquinolin-6-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

ethyl 2-(((1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridin-3-yl)carbamoyl)oxy)acetate;

ethyl (1s,3s)-3-(((1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridin-3-yl)carbamoyl)oxy)cyclobutane-1-carboxylate;

ethyl 1-(2-(((1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridin-3-yl)carbamoyl)oxy)ethyl)piperidine-4-carboxylate;

1-methylpiperidin-4-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

ethyl (R)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

ethyl (S)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

isopropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(4-methylmorpholin-2-yl)methyl 1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxylate;

3-cyanocyclobutyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

2-hydroxy-2-methylpropyl 2-(1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidin-4-yl)acetate;

2-cyano-2-methylpropyl (R)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

(3S,4S)-4-fluoro-1-methylpyrrolidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(3R*,4R*)-4-fluoro-1-methylpyrrolidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(R)-1-(2-fluoroethyl)pyrrolidin-3-yl 2-(1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidin-4-yl)acetate;

(1-cyanocyclopropyl)methyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

3-cyanopropyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

(R)-1-(2-fluoroethyl)pyrrolidin-3-yl (R)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

(R)-1-methylpyrrolidin-3-yl (S)-1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)pyrrolidine-3-carboxylate;

1-isopropylazetidin-3-yl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-((3-oxo-3,4-dihydropyrazin-2-yl)amino)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carboxylate;

S-ethyl 1-(2-(1-(6-methoxy-3,4-dihydro-2H-benzo[b][1,4]oxazin-7-yl)-6-(pyrazolo[1,5-a]pyrimidin-3-yl)-1H-pyrazolo[4,3-c]pyridine-3-carboxamido)ethyl)piperidine-4-carbothioate;

single enantiomers, diastereoisomers and mixtures thereof

or pharmaceutical acceptable salts and solvates thereof.

7. A pharmaceutical composition comprising a compound as defined in any one of claims

1 to 6, or a pharmaceutically acceptable salt thereof, in admixture with one or more pharmaceutically acceptable carrier or excipient.

8. A pharmaceutical composition according to claim 7 suitable to be administered by inhalation, selected from inhalable powders, propellant-containing metering aerosols or propellant-free inhalable formulations.

9. A device comprising the pharmaceutical composition according to claim 8, which may be a single- or multi-dose dry powder inhaler, a metered dose inhaler or a soft mist nebulizer.

10. A compound or a pharmaceutical composition according to any one of claims 1 to 8 for use as a medicament.

11. A compound or a pharmaceutical composition for use according to claim 10 in the prevention and /or treatment of a pulmonary disease selected from the group consisting of asthma, chronic obstructive pulmonary disease COPD, idiopathic pulmonary fibrosis (IPF), acute lung injury and acute respiratory distress syndrome (ARDS).

12. A combination of a compound as defined in any one of the claims 1 to 6 with one or more active ingredients selected from the classes currently used in the treatment of respiratory disorders, and known to the skilled person, such as beta2-agonists, antimuscarinic agents, corticosteroids, mitogen-activated kinases (P38 MAP kinases) inhibitors, PI3K inhibitors (phosphoinositide 3-kinases), nuclear factor kappa-B kinase subunit beta inhibitors (IKK2), Rho kinase inhibitors (ROCKi), human neutrophil elastase (HNE) inhibitors, phosphodiesterase 4 (PDE4) inhibitors, leukotriene modulators, non-steroidal anti-inflammatory agents (NSAIDs) and mucus regulators.

13. Use of the compound as defined in any one of claims 1 to 6 or the pharmaceutical composition according to any one of claims 7 to 8, in the manufacture of a medicament for the prevention and /or treatment of a pulmonary disease selected from the group consisting of asthma, chronic obstructive pulmonary disease COPD, idiopathic pulmonary fibrosis (IPF), acute lung injury and acute respiratory distress syndrome (ARDS).