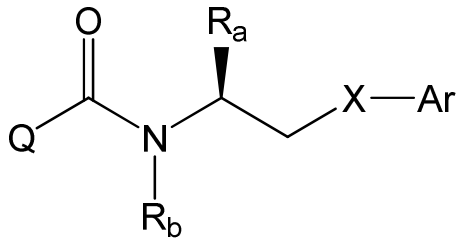
[0009] Finally the Orexin/OX_1 pathway has been implicated in nicotine self-administration (33, 34) and re-instatement of nicotine seeking (35, 36). Such data suggest that OX_1 antagonists could find utility as smoking cessation therapies.

[0010] Taken together the orexin system, in particular the OX_1 pathway may be considered a target for the treatment of reward seeking behaviours, addiction and related disorders.

[0011] There is therefore a need for compounds capable of attenuating orexin-1 (OX_1) activity. There is a further need for compounds capable of selectively modulating orexin-1 (OX_1) function.

SUMMARY OF THE INVENTION

[0012] In one aspect, the present invention provides a compound of Formula I



(I)

wherein:

Ra is ethyl, propyl, isopropyl, cyclopropyl, n-butyl, isobutyl, sec-butyl, t-butyl, or cyclopropylmethyl, each of which is optionally substituted by one or more fluoro;

R_b is selected from:

(i) a (1-4C)alkyl which is optionally substituted by one or more fluoro;

(ii) a (3-6C)cycloalkyl which is optionally substituted by one or more fluoro; or

(iii) a (3-6C)cycloalkyl(1-2C)alkyl which is optionally substituted by one or more fluoro;

X is a group:

$$-X^0-(CR^{2b}R^{3b})_n-$$

Wherein

X0 is selected from -O-, -N(R1)-, -N(R1)C(O)N(R1)- or -S-;

n is 0 or 1;

R1 is selected from hydrogen or a (1-2C)alkyl group which is optionally substituted by one or more substituents selected from fluoro, hydroxyl, NR1aR1b, (1-2C)alkoxy or (1-2C)haloalkoxy;

R1a and R1b are each independently selected from hydrogen or (1-2C)alkyl or R1a and R1b are linked such that, together with the nitrogen atom to which they are attached, they form a 4, 5 or 6 membered heterocyclic ring;

R2b and R3b are hydrogen;

Ar is aryl or heteroaryl, each of which is optionally substituted with one or more substituents selected from the group consisting of halo, cyano, nitro or a group of the formula:

$$-L^1-X^1-R^6$$

wherein

L^1 is absent or a linker group of the formula $–[CR^7R^8]_r-$ in which r is an integer selected from 1, 2, 3 or 4, and R^7 and R^8 are each independently selected from hydrogen, halo, hydroxy or a (1-4C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents; or R^7 and R^8 are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-6C)cycloalkyl ring which is optionally substituted by one or more fluoro substituents;

X1 is absent or selected from -O-, -C(O)-, -C(O)O-, -OC(O)-, -N(R9)-, -N(R9)-C(O)-, -C(O)-N(R9)-, -N(R9)-C(O)O-, -OC(O)-N(R9)-, -N(R9)C(O)N(R10)-, -S-, -SO-, -SO2-, -S(O)2N(R9)-, -N(R9)SO2- or –S(O)(=NR10)-, wherein R9 and R10 are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R6 is hydrogen, (1-6C)alkyl, (2-6C)alkenyl, (2-6C)alkynyl, aryl, aryl(1-2C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl, heterocyclyl, heterocyclyl-(1-2C)alkyl, heteroaryl, or heteroaryl-(1-2C)alkyl,

and wherein R6 is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$$-L^2-X^2-R^{11}$$

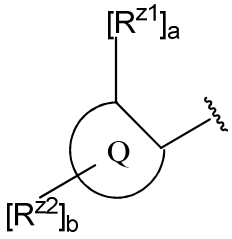
wherein

L^2 is absent or a linker group of the formula $–[CR^{12}R^{13}]_s-$ in which s is an integer selected from 1, 2, 3 or 4, and R^{12} and R^{13} are each independently selected from hydrogen or a (1-4C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents; or R^{12} and R^{13} are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-6C)cycloalkyl ring which is optionally substituted by one or more fluoro substituents;

X2 is absent or selected from -O-, -C(O)-, -C(O)O-, -OC(O)-, -N(R14)-, -N(R14)-C(O)-, -C(O)-N(R14)-, -N(R14)-C(O)O-, -OC(O)-N(R14)-, -N(R14)C(O)N(R15)-, -S-, -SO-, -SO2-, -S(O)2N(R14)-, -N(R14)SO2- or -S(O)(=NR14)-, wherein R14 and R15 are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R11 is hydrogen or a (1-6C)alkyl (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents;

Q is a group having the following structure:



wherein ring Q is selected from phenyl, a 5-6 membered monocyclic heteroaryl, or a 9-10 membered bicyclic heteroaryl; a is an integer 0-1; and b is an integer 0-5; and wherein

R^{z1} is a substituent group of the formula:

$$-L^3-X^3-R^{30}$$

wherein

L^3 is absent;

X^3 is absent; and

R^{30} is phenyl or a C- or N-linked 5-6 membered heteroaryl,

and wherein R^{30} is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano nitro, or a group of the formula:

$$-L^4-X^4-R^{35}$$

wherein

L^4 is absent or a linker group of the formula $–[CR^{36}R^{37}]_u-$ in which u is an integer selected from 1, 2 or 3, and R^{36} and R^{37} are each independently selected from hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; or R^{36} and R^{37} are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-4C)cycloalkyl ring which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^4 is absent or selected from -O-, -C(O)-, $-N(R^{38})-$, $–N(R^{38})$-C(O)-, -C(O)-$N(R^{38})$-, -$N(R^{38})$C(O)$N(R^{39})$-, -S-, -SO-, -SO_2-, -$S(O)_2N(R^{38})$-, -$N(R^{38})SO_2$- or $–S(O)(=NR^{38})-$, wherein R^{38} and R^{39} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R^{35} is hydrogen or a (1-6C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; and

R^{z2} is selected from the group consisting of halo, cyano, nitro, or a group of the formula:

$$-L^3-X^3-R^{30}$$

wherein

L^3 is absent or a linker group of the formula $–[CR^{31}R^{32}]_t-$ in which t is an integer selected from 1 or 2, and R^{31} and R^{32} are each independently selected from hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^3 is absent, or selected from -O-, -C(O)-, $-N(R^{33})-$, $-N(R^{33})$-C(O)-, -C(O)-$N(R^{33})$-, -$N(R^{33})$C(O)$N(R^{34})$-, -S-, -SO-, -SO_2-, -$S(O)_2N(R^{33})$-, -$N(R^{33})SO_2$- or -$S(O)(=NR^{33})$-, wherein R^{33} and R^{34} are selected from hydrogen or (1-4C)alkyl; and

R^{30} is hydrogen, (1-4C)alkyl, phenyl, phenyl(1-2C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl, 3-6-membered heterocyclyl, 3-6-membered

heterocyclyl-(1-2C)alkyl, 5-6-membered heteroaryl, or 5-6-membered heteroaryl-(1-2C)alkyl,

and wherein R^{30} is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$$-L^4-X^4-R^{35}$$

wherein

L^4 is absent or a linker group of the formula $–[CR^{36}R^{37}]_u-$ in which u is an integer selected from 1 or 2, and R^{36} and R^{37} are each independently selected from hydrogen or a (1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^4 is absent or selected from -O-, $-N(R^{38})-$, $–N(R^{38})-C(O)-$, $-C(O)-N(R^{38})-$, $-N(R^{38})C(O)N(R^{39})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^{38})-$, $-N(R^{38})SO_2-$ or $–S(O)(=NR^{38})-$, wherein R^{38} and R^{39} are selected from hydrogen or (1-4C)alkyl; and

R^{35} is hydrogen or a (1-4C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

or a pharmaceutically acceptable salt or solvate thereof. Also disclosed is a compound, or a pharmaceutically acceptable salt or solvate thereof as defined herein.

[0012a] In another aspect, the present invention provides a compound which is selected from any one of the following:

(S)-N-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-N,5-dimethyl-2-(2H-1,2,3-triazol-2-yl)benzamide;
(S)-N-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-5-methyl-2-(2H-1,2,3-triazol-2-yl)benzamide;
(S)-N-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-N-methyl-[1,1'-biphenyl]-2-carboxamide;
(S)-N-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-[1,1'-biphenyl]-2-carboxamide;

[0015] In yet another aspect, the present invention relates to a compound as described herein, for use in the treatment of schizophrenia and other psychotic disorders; dementia and other cognitive disorders; anxiety disorders; mood disorders; addiction including substance dependence, alcohol dependence, nicotine dependence or gambling disorder; eating disorders; sleep disorders; attention-deficit disorder, autistic spectrum disorders, Rett syndrome, Fragile X syndrome, Asperger syndrome; disruptive behaviour disorders; restless leg syndrome; pain; osteoporosis and neurodegenerative disorders. Also disclosed is a compound of the invention as defined herein, or a pharmaceutically acceptable salt or solvate thereof, or a pharmaceutical composition as defined herein, for use in the treatment of diseases or conditions in which orexin-1 (OX_1) activity is implicated.

[0016] Also disclosed is the use of a compound of the invention as defined herein, or a pharmaceutically acceptable salt or solvate thereof, in the manufacture of a medicament for use in the treatment of diseases or conditions in which orexin-1 (OX_1) activity is implicated.

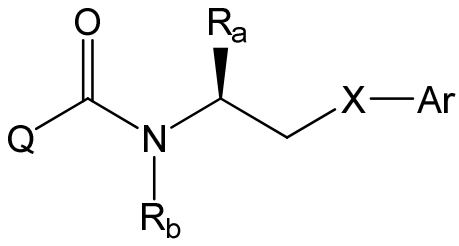
[0017] In yet another aspect, the present invention relates to use of a compound as described herein, or a pharmaceutically acceptable salt or solvate therefore in the manufacture of a medicament for treating a disease or condition selected from schizophrenia and other psychotic disorders; dementia and other cognitive disorders; anxiety disorders; mood disorders; addiction including substance dependence, alcohol dependence, nicotine dependence or gambling disorder; eating disorders

; sleep disorders; attention-deficit disorder, autistic spectrum disorders, Rett syndrome, Fragile X syndrome, Asperger syndrome; disruptive behaviour disorders; restless leg syndrome; pain; osteoporosis and neurodegenerative disorders. Also dislosed is a method of treating a disease or condition in which orexin-1 (OX_1) activity is implicated, said method comprising administering to a subject in need of such treatment a therapeutically effective amount of a compound of the invention as defined herein, or a pharmaceutically acceptable salt or solvate thereof, or a pharmaceutical composition as defined herein.

[0018] Examples of conditions in which orexin-1 (OX_1) activity is implicated include behavioural arousal, eating disorders (e.g. binge eating, obesity), psychiatric conditions

CLAIMS

1. A compound of Formula I



(I)

wherein:

R_a is ethyl, propyl, isopropyl, cyclopropyl, n-butyl, isobutyl, sec-butyl, t-butyl, or cyclopropylmethyl, each of which is optionally substituted by one or more fluoro;

R_b is selected from:

(i) a (1-4C)alkyl which is optionally substituted by one or more fluoro;

(ii) a (3-6C)cycloalkyl which is optionally substituted by one or more fluoro; or

(iii) a (3-6C)cycloalkyl(1-2C)alkyl which is optionally substituted by one or more fluoro;

X is a group:

$$-X^0-(CR^{2b}R^{3b})_n-$$

wherein

X^0 is selected from -O-, -N(R^1)-, -N(R^1)C(O)N(R^1)- or -S-;

n is 0 or 1;

R^1 is selected from hydrogen or a (1-2C)alkyl group which is optionally substituted by one or more substituents selected from fluoro, hydroxyl, $NR^{1a}R^{1b}$, (1-2C)alkoxy or (1-2C)haloalkoxy;

R^{1a} and R^{1b} are each independently selected from hydrogen or (1-2C)alkyl or R^{1a} and R^{1b} are linked such that, together with the nitrogen atom to which they are attached, they form a 4, 5 or 6 membered heterocyclic ring;

R^{2b} and R^{3b} are hydrogen;

Ar is aryl or heteroaryl, each of which is optionally substituted with one or more substituents selected from the group consisting of halo, cyano, nitro or a group of the formula:

$$-L^1-X^1-R^6$$

wherein

L^1 is absent or a linker group of the formula $–[CR^7R^8]_r-$ in which r is an integer selected from 1, 2, 3 or 4, and R^7 and R^8 are each independently selected from hydrogen, halo, hydroxy or a (1-4C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents; or R^7 and R^8 are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-6C)cycloalkyl ring which is optionally substituted by one or more fluoro substituents;

X^1 is absent or selected from -O-, -C(O)-, -C(O)O-, -OC(O)-, $-N(R^9)-$, $-N(R^9)-C(O)-$, $-C(O)-N(R^9)-$, $-N(R^9)-C(O)O-$, $-OC(O)-N(R^9)-$, $-N(R^9)C(O)N(R^{10})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^9)-$, $-N(R^9)SO_2-$ or $–S(O)(=NR^{10})-$, wherein R^9 and R^{10} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R^6 is hydrogen, (1-6C)alkyl, (2-6C)alkenyl, (2-6C)alkynyl, aryl, aryl(1-2C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl, heterocyclyl, heterocyclyl-(1-2C)alkyl, heteroaryl, or heteroaryl-(1-2C)alkyl,

and wherein R^6 is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$$-L^2-X^2-R^{11}$$

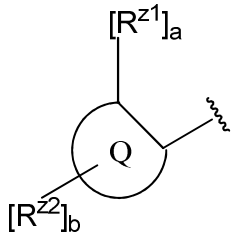
wherein

L^2 is absent or a linker group of the formula $–[CR^{12}R^{13}]_s-$ in which s is an integer selected from 1, 2, 3 or 4, and R^{12} and R^{13} are each independently selected from hydrogen or a (1-4C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents; or R^{12} and R^{13} are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-6C)cycloalkyl ring which is optionally substituted by one or more fluoro substituents;

X^2 is absent or selected from -O-, -C(O)-, -C(O)O-, -OC(O)-, $-N(R^{14})-$, $-N(R^{14})-C(O)-$, $-C(O)-N(R^{14})-$, $-N(R^{14})-C(O)O-$, $-OC(O)-N(R^{14})-$, $-N(R^{14})C(O)N(R^{15})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^{14})-$, $-N(R^{14})SO_2-$ or $-S(O)(=NR^{14})-$, wherein R^{14} and R^{15} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R^{11} is hydrogen or a (1-6C)alkyl (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents;

Q is a group having the following structure:



wherein ring Q is selected from phenyl, a 5-6 membered monocyclic heteroaryl, or a 9-10 membered bicyclic heteroaryl; a is an integer 0-1; and b is an integer 0-5; and wherein

R^{z1} is a substituent group of the formula:

$$-L^3-X^3-R^{30}$$

wherein

L^3 is absent;

X^3 is absent; and

R^{30} is phenyl or a C- or N-linked 5-6 membered heteroaryl,

and wherein R^{30} is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano nitro, or a group of the formula:

$$-L^4-X^4-R^{35}$$

wherein

L^4 is absent or a linker group of the formula $–[CR^{36}R^{37}]_u-$ in which u is an integer selected from 1, 2 or 3, and R^{36} and R^{37} are each independently selected from hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; or R^{36} and R^{37} are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-4C)cycloalkyl ring which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^4 is absent or selected from -O-, -C(O)-, $-N(R^{38})-$, $–N(R^{38})-C(O)-$, $-C(O)-N(R^{38})-$, $-N(R^{38})C(O)N(R^{39})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^{38})-$, $-N(R^{38})SO_2-$

or –S(O)(=NR^{38})-, wherein R^{38} and R^{39} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R^{35} is hydrogen or a (1-6C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; and

R^{z2} is selected from the group consisting of halo, cyano, nitro, or a group of the formula:

$$-L^3-X^3-R^{30}$$

wherein

L^3 is absent or a linker group of the formula –[CR^{31}R^{32}]$_t$- in which t is an integer selected from 1 or 2, and R^{31} and R^{32} are each independently selected from hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^3 is absent, or selected from -O-, -C(O)-, -N(R^{33})-, -N(R^{33})-C(O)-, -C(O)-N(R^{33})-, -N(R^{33})C(O)N(R^{34})-, -S-, -SO-, -SO$_2$-, -S(O)$_2$N(R^{33})-, -N(R^{33})SO$_2$- or -S(O)(=NR^{33})-, wherein R^{33} and R^{34} are selected from hydrogen or (1-4C)alkyl; and

R^{30} is hydrogen, (1-4C)alkyl, phenyl, phenyl(1-2C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl, 3-6-membered heterocyclyl, 3-6-membered heterocyclyl-(1-2C)alkyl, 5-6-membered heteroaryl, or 5-6-membered heteroaryl-(1-2C)alkyl,

and wherein R^{30} is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$$-L^4-X^4-R^{35}$$

wherein

L^4 is absent or a linker group of the formula –[CR^{36}R^{37}]$_u$- in which u is an integer selected from 1 or 2, and R^{36} and R^{37} are each independently selected from hydrogen or a (1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^4 is absent or selected from -O-, -N(R^{38})-, –N(R^{38})-C(O)-, -C(O)-N(R^{38})-, -N(R^{38})C(O)N(R^{39})-, -S-, -SO-, -SO$_2$-, -S(O)$_2$N(R^{38})-, -N(R^{38})SO$_2$- or –S(O)(=NR^{38})-, wherein R^{38} and R^{39} are selected from hydrogen or (1-4C)alkyl; and

R^{35} is hydrogen or a (1-4C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

or a pharmaceutically acceptable salt or solvate thereof.

2. A compound according to claim 1, wherein R_a is ethyl, cyclopropyl or isopropyl, each of which is optionally substituted by one or more fluoro.

3. A compound according to claim 1 or claim 2, wherein R_a is ethyl or cyclopropyl, each of which is optionally substituted by one or more fluoro.

4. A compound according to any one of the preceding claims, wherein R_a is ethyl optionally substituted by one or more fluoro.

5. A compound according to any one of the preceding claims, wherein R_a is ethyl.

6. A compound according to any one of the preceding claims, wherein R_b is selected from:

(i) a (1-4C)alkyl which is optionally substituted by one or more fluoro;
(ii) a (3-4C)cycloalkyl which is optionally substituted by one or more fluoro;
(iii) a (3-4C)cycloalkyl(1-2C)alkyl which is optionally substituted by one or more fluoro;

7. A compound according to any one of the preceding claims, wherein R_b is a (1-4C)alkyl which is optionally substituted by one or more fluoro.

8. A compound according to any one of the preceding claims, wherein R_b is methyl.

9. A compound according to any one of the preceding claims, wherein Ar is aryl or heteroaryl, each of which is optionally substituted with one or more substituents selected from the group consisting of halo, cyano, nitro or a group of the formula:

$-L^1-X^1-R^6$

wherein

L^1 is absent or a linker group of the formula $–[CR^7R^8]_r-$ in which r is an integer selected from 1, 2 or 3, and R^7 and R^8 are each independently selected from hydrogen, halo, hydroxy or a (1-4C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; or R^7 and R^8 are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-4C)cycloalkyl ring which is optionally substituted by one or more fluoro substituents;

X^1 is absent or selected from -O-, -C(O)-, $-N(R^9)-$, $-N(R^9)-C(O)-$, $-C(O)-N(R^9)-$, $-N(R^9)C(O)N(R^{10})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^9)-$, $-N(R^9)SO_2-$ or $–S(O)(=NR^{10})-$, wherein R^9 and R^{10} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-4C)cycloalkyl; and

R^6 is hydrogen, (1-6C)alkyl, aryl, aryl(1-2C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl, heterocyclyl, heterocyclyl-(1-2C)alkyl, heteroaryl, or heteroaryl-(1-2C)alkyl,

and wherein R^6 is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$-L^2-X^2-R^{11}$

wherein

L^2 is absent or a linker group of the formula $–[CR^{12}R^{13}]_s-$ in which s is an integer selected from 1, 2 or 3, and R^{12} and R^{13} are each independently selected from hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; or R^{12} and R^{13} are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-6C)cycloalkyl ring which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^2 is absent or selected from -O-, -C(O)-, $-N(R^{14})-$, $-N(R^{14})-C(O)-$, $-C(O)-N(R^{14})-$, $-N(R^{14})-C(O)O-$, $-N(R^{14})C(O)N(R^{15})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^{14})-$, $-N(R^{14})SO_2-$ or $-S(O)(=NR^{14})-$, wherein R^{14} and R^{15} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R^{11} is hydrogen or a (1-6C)alkyl (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more fluoro substituents.

10. A compound according to any one of the preceding claims, wherein Ar is aryl or heteroaryl, each of which is optionally substituted with one or more substituents selected from the group consisting of halo, cyano, nitro or a group of the formula:

$$-L^1-X^1-R^6$$

wherein

L^1 is absent or a linker group of the formula $–[CR^7R^8]_r-$ in which r is an integer selected from 1 or 2, and R^7 and R^8 are each independently selected from hydrogen, halo, or a (1-2C)alkyl group which is optionally substituted by one or more fluoro substituents;

X^1 is absent or selected from -O-, $-N(R^9)-$, -S-, -SO-, or $-SO_2-$, wherein R^9 is selected from hydrogen or (1-2C)alkyl; and

R^6 is hydrogen, (1-4C)alkyl, phenyl, phenyl(1-2C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl, 3-6-membered heterocyclyl, 3-6-membered heterocyclyl-(1-2C)alkyl, 5-6-membered heteroaryl, or 5-6-membered heteroaryl-(1-2C)alkyl,

and wherein R^6 is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$$-L^2-X^2-R^{11}$$

wherein

L^2 is absent or a linker group of the formula $–[CR^{12}R^{13}]_s-$ in which s is an integer selected from 1 or 2, and R^{12} and R^{13} are each independently selected from hydrogen or a (1-2C)alkyl group

X^2 is absent or selected from -O-, $-N(R^{14})-$, -S-, -SO-, or $-SO_2-$, wherein R^{14} is selected from hydrogen or (1-2C)alkyl; and

R^{11} is hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more fluoro substituents.

11. A compound according to any one of the preceding claims, wherein Ar is phenyl, naphthyl or a mono or bicyclic heteroaryl, each of which is optionally substituted with one or more substituents selected from the group consisting of halo, cyano, nitro or a group of the formula:

$$-L^1-X^1-R^6$$

wherein

L^1 is absent or a linker group of the formula $–[CR^7R^8]_r-$ in which r is an integer selected from 1 or 2, and R^7 and R^8 are each independently selected from hydrogen, halo, or a (1-2C)alkyl group which is optionally substituted by one or more fluoro substituents;

X^1 is absent or selected from -O-, $-N(R^9)-$, -S-, -SO-, or $-SO_2-$, wherein R^9 is selected from hydrogen or (1-2C)alkyl; and

R^6 is hydrogen, (1-4C)alkyl, phenyl, phenyl(1-2C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl, 3-6-membered heterocyclyl, 3-6-membered heterocyclyl-(1-2C)alkyl, 5-6-membered heteroaryl, or 5-6-membered heteroaryl-(1-2C)alkyl,

and wherein R^6 is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$$-L^2-X^2-R^{11}$$

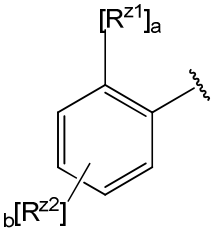
wherein

L^2 is absent or a linker group of the formula $–[CR^{12}R^{13}]_s-$ in which s is an integer selected from 1 or 2, and R^{12} and R^{13} are each independently selected from hydrogen or a (1-2C)alkyl group

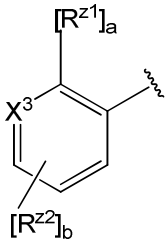
X^2 is absent or selected from -O-, $-N(R^{14})-$, -S-, -SO-, or $-SO_2-$, wherein R^{14} is selected from hydrogen or (1-2C)alkyl; and

R^{11} is hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more fluoro substituents.

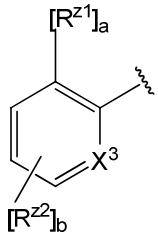
12. A compound according to any one of the preceding claims, wherein ring Q is a group having any one of the following structures, W1-W7:



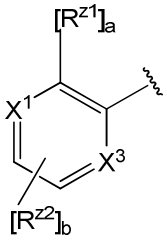
W1



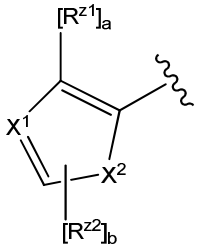
W2



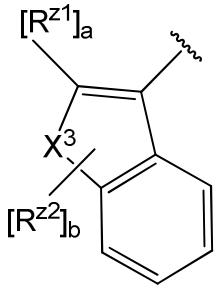
W3



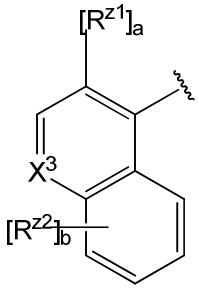
W4



W5



W6



W7

wherein X^1, X^2 and X^3 are each a heteroatom selected from O, N or S; a is an integer 0-1; and b is an integer 0-5; and R^{z1} and R^{z2} are as defined in claim 1.

13. A compound according to any preceding claim, wherein a is 1 and b is 0 or 1.

14. A compound according to any preceding claim, wherein R^{z1} is a substituent group of the formula:

$$-L^3\text{-}X^3\text{-}R^{30}$$

wherein

L^3 is absent;

X^3 is absent; and

R^{30} is phenyl or a C- or N-linked 5-6 membered heteroaryl,

and wherein R^{30} is optionally further substituted by one or more substituent groups independently selected from halo, cyano or a group of the formula:

$-L^4-X^4-R^{35}$

wherein

L^4 is absent;

X^4 is absent; and

R^{35} is hydrogen or a (1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents.

15. A compound according to any preceding claim, wherein R^{z2} is selected from the group consisting of halo, cyano, nitro, or a group of the formula:

$-L^3-X^3-R^{30}$

wherein

L^3 is absent;

X^3 is absent, or selected from -O-, $-N(R^{33})-$, $-N(R^{33})-C(O)-$, $-C(O)-N(R^{33})-$, -S-, -SO-, or $-SO_2-$, wherein R^{33} is selected from hydrogen or (1-2C)alkyl; and

R^{30} is hydrogen, (1-4C)alkyl, (3-4C)cycloalkyl, (3-4C)cycloalkyl(1-2C)alkyl, 3-6-membered heterocyclyl, 3-6-membered heterocyclyl-(1-2C)alkyl, 5-6-membered heteroaryl, or 5-6-membered heteroaryl-(1-2C)alkyl,

and wherein R^{30} is optionally further substituted by one or more substituent groups independently selected from oxo, halo, cyano, nitro, or a group of the formula:

$-L^4-X^4-R^{35}$

wherein

L^4 is absent or a linker group of the formula $-[CR^{36}R^{37}]_u-$ in which u is an integer selected from 1, 2 or 3, and R^{36} and R^{37} are each independently selected from hydrogen or a (1-4C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents; or R^{36} and R^{37} are optionally linked to such that, together with the carbon atom to which they are attached, they form a (3-4C)cycloalkyl ring which is optionally substituted by one or more (e.g. one to five) fluoro substituents;

X^4 is absent or selected from -O-, -C(O)-, $-N(R^{38})-$, $-N(R^{38})-C(O)-$, $-C(O)-N(R^{38})-$, $-N(R^{38})C(O)N(R^{39})-$, -S-, -SO-, $-SO_2-$, $-S(O)_2N(R^{38})-$, $-N(R^{38})SO_2-$ or $-S(O)(=NR^{38})-$, wherein R^{38} and R^{39} are selected from hydrogen, (1-4C)alkyl, (1-4C)fluoroalkyl or (3-6C)cycloalkyl; and

R^{35} is hydrogen or a (1-6C)alkyl, (3-6C)cycloalkyl, (3-6C)cycloalkyl(1-2C)alkyl group which is optionally substituted by one or more (e.g. one to five) fluoro substituents.

16. A compound according to any preceding claim, wherein R^{z2} is selected from the group consisting of halo, cyano, or a group of the formula:

$$-L^3-X^3-R^{30}$$

wherein

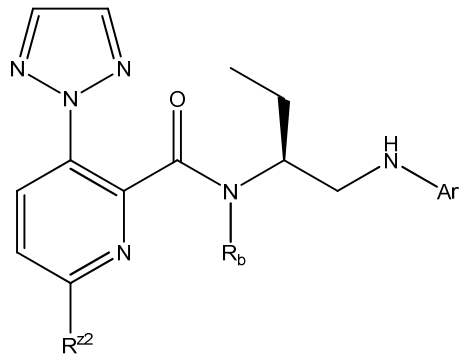
L^3 is absent;

X^3 is absent, or selected from -O-, -N(R^{33})-, –N(R^{33})-C(O)-, -C(O)-N(R^{33})-, -S-, -SO-, or -SO_2-, wherein R^{33} is selected from hydrogen or (1-2C)alkyl; and

R^{30} is hydrogen or (1-4C)alkyl,

and wherein R^{30} is optionally further substituted by one or more fluoro atoms.

17. A compound according to claim 1, wherein said compound has the structural formula IA shown below



(IA)

wherein

R_b and Ar are each as defined in claim 1, and R^{z2} is as defined in claim 15 or claim 16.

18. A compound according to claim 17, wherein

R_b is (1-4C)alkyl optionally substituted by fluoro;

R^{z2} is selected from the group consisting of halo, cyano, nitro, or a group of the formula:

$$-L^3-X^3-R^{30}$$

wherein

L^3 is absent;

X^3 is absent, or selected from -O-, -N(R^{33})-, –N(R^{33})-C(O)-, -C(O)-N(R^{33})-, -S-, -SO-, or -SO_2-, wherein R^{33} is selected from hydrogen or (1-2C)alkyl; and

R^{30} is hydrogen or (1-4C)alkyl;

and wherein R^{30} is optionally further substituted by one or more fluoro atoms;

Ar is as defined in any one of claims 1, 9 or 10.

19. A compound according to claim 17 or claim 18, wherein

R_b is methyl optionally substituted by fluoro;

R^{z2} is selected from the group consisting of halo, methyl, methoxy, CF_3 or OCF_3;

Ar is pyridyl, pyrmidinyl, pyrazinyl, which is optionally substituted by one or more substituent groups slected from halo, cyano, hydroxyl, mercapto, amino, carbamoyl, sulphamoyl, (1-2C)alkyl, (1-2C)haloalkyl, (1-2C)alkoxy, (1-2C)haloalkoxy, (1-2C)alkylamino, di-[(1-2C)alkyl]amino, (1-2C)alkylthio, (1-2C)alkylsulphinyl, (1-2C)alkylsulphonyl, (1-2C)alkoxycarbonyl, *N*-(1-2C)alkylcarbamoyl, *N*,*N*-di-[(1-2C)alkyl]carbamoyl, (2C)alkanoyl, (2C)alkanoyloxy, (2C)alkanoylamino, *N*-(1-2C)alkylsulphamoyl and *N*,*N*-di-[(1-2C)alkyl]sulphamoyl.

20. A compound which is selected from any one of the following:

(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*,5-dimethyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-5-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-4-methylpentan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-2-methyl-4-phenylthiazole-5-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-4-methylpentan-2-yl)-2-methyl-4-phenylthiazole-5-carboxamide;

(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-4-methylpentan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-4-methylpentan-2-yl)-*N*,2-dimethyl-4-phenylthiazole-5-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*,2-dimethyl-4-phenylthiazole-5-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3,3-dimethylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(2-((5-chloropyridin-2-yl)amino)-1-cyclopropylethyl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)propan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*-cyclopropyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-5-chloro-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-5-(trifluoromethyl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-5-fluoro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-5-bromo-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-5-(trifluoromethoxy)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*,5-dimethyl-2-morpholinobenzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-5-(dimethylamino)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-5-(trifluoromethyl)nicotinamide;
(*S*)-5-chloro-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*,2-dimethyl-5-phenylthiazole-4-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*-methyl-2-phenyl-1*H*-indole-3-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((4-fluorobenzyl)oxy)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((4,6-dimethylpyrimidin-2-yl)oxy)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-methyl-*N*-(3-methyl-1-(quinazolin-2-yloxy)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-methyl-*N*-(3-methyl-1-((4-phenylpyrimidin-2-yl)oxy)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-methyl-*N*-(3-methyl-1-((1-methyl-1*H*-benzo[*d*]imidazol-2-yl)oxy)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)oxy)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-methyl-*N*-(3-methyl-1-((4-phenylpyrimidin-2-yl)amino)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;

(*S*)-*N*-methyl-*N*-(3-methyl-1-(quinazolin-2-ylamino)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((4,6-dimethylpyrimidin-2-yl)amino)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-methyl-*N*-(3-methyl-1-((1-methyl-1*H*-benzo[*d*]imidazol-2-yl)amino)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)benzamide;
(*S*)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrazin-2-yl)amino)butan-2-yl)benzamide;
(*S*)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((6-(trifluoromethyl)pyridazin-3-yl)amino)butan-2-yl)benzamide;
(*S*)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyridin-2-yl)amino)butan-2-yl)benzamide;
(*S*)-*N*-(1-(benzo[*d*]oxazol-2-ylamino)butan-2-yl)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-(benzo[*d*]thiazol-2-ylamino)butan-2-yl)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-5-chloro-*N*-(1-((5-chloro-3-nitropyridin-2-yl)amino)butan-2-yl)-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrazin-2-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyridin-2-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*,5-dimethyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*,1-dimethyl-1*H*-indole-3-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*,2-dimethylquinoline-4-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)-3-methylbutan-2-yl)-*N*-methyl-2-(trifluoromethoxy)benzamide;
(*S*)-5-chloro-*N*-methyl-*N*-(1-((6-methylpyridin-2-yl)amino)butan-2-yl)-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((6-(trifluoromethyl)pyridin-3-yl)amino)butan-2-yl)benzamide;
(*S*)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((6-(trifluoromethyl)pyridin-3-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*-(1-(4-fluorobenzamido)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((4-fluorobenzyl)amino)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-methyl-*N*-(3-methyl-1-(3-phenylureido)butan-2-yl)-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((4-chlorophenyl)amino)-3-methylbutan-2-yl)-*N*-methyl-[1,1'-biphenyl]-2-carboxamide;
(*S*)-*N*-(1-((3-amino-5-chloropyridin-2-yl)amino)butan-2-yl)-5-chloro-*N*-methyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*,6-dimethyl-*N*-(1-(quinazolin-2-ylamino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-(1-(benzo[*d*]oxazol-2-ylamino)butan-2-yl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-(1-(benzo[*d*]thiazol-2-ylamino)butan-2-yl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;

(*S*)-*N*-(1-((5-chlorobenzo[*d*]oxazol-2-yl)amino)butan-2-yl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-*N*-(1-(quinoxalin-2-ylamino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-*N*-(3-methyl-1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-*N*-(3-methyl-1-((5-(trifluoromethyl)pyrazin-2-yl)amino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-*N*-(3-methyl-1-(quinazolin-2-ylamino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-*N*-(3-methyl-1-((5-(trifluoromethyl)pyridin-2-yl)amino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-ethyl-6-methyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrazin-2-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*-ethyl-6-methyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyridin-2-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*-ethyl-6-methyl-*N*-(1-(quinazolin-2-ylamino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-ethyl-6-methyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide;
(S)-*N*-(1-cyclopropyl-2-((5-(trifluoromethyl)pyrimidin-2-yl)amino)ethyl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-*N*-(1-(quinolin-2-ylamino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-(1-((1,5-naphthyridin-2-yl)amino)butan-2-yl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-5-chloro-*N*-methyl-*N*-(1-(quinolin-2-ylamino)butan-2-yl)-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*,3-dimethyl-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)isoquinoline-1-carboxamide;
(*S*)-*N*-methyl-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)quinoline-8-carboxamide;
(*S*)-6-chloro-*N*-methyl-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)quinoline-8-carboxamide;
(*S*)-3-(dimethylamino)-*N*-methyl-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)isoquinoline-1-carboxamide;
(*S*)-*N*,6-dimethyl-*N*-(1-(methyl(5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*-(1-((2-methoxyethyl)(5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-3-(pyrimidin-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide formic acid salt;
(*S*)-*N*-methyl-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)isoquinoline-1-carboxamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-*N*,4,5-trimethyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(*S*)-*N*-(1-((5-chloropyridin-2-yl)amino)butan-2-yl)-5-methoxy-*N*,4-dimethyl-2-(2*H*-1,2,3-triazol-2-yl)benzamide;
(S)-*N*,6-dimethyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(4,4,4-trifluoro-1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide;
(*S*)-*N*,6-dimethyl-3-(1*H*-1,2,4-triazol-1-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide formic acid salt;
(*S*)-*N*,6-dimethyl-3-(1*H*-pyrazol-1-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide formic acid salt;

(*S*)-2-fluoro-*N*-methyl-6-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)benzamide;
(*S*)-6-methoxy-*N*-methyl-3-(2*H*-1,2,3-triazol-2-yl)-*N*-(1-((5-(trifluoromethyl)pyrimidin-2-yl)amino)butan-2-yl)picolinamide;or a pharmaceutically acceptable salt or solvate thereof.

21. A pharmaceutical composition comprising a compound according to any one of claims 1 to 20, or a pharmaceutically acceptable salt or solvate thereof, and one or more pharmaceutically acceptable excipients.

22. A compound according to any one of claims 1 to 20, or a pharmaceutically acceptable salt or solvate thereof, or a pharmaceutical composition according to claim 21, for use in therapy.

23. A compound according to any one of claims 1 to 20, for use in the treatment of schizophrenia and other psychotic disorders; dementia and other cognitive disorders; anxiety disorders; mood disorders; addiction including substance dependence, alcohol dependence, nicotine dependence or gambling disorder; eating disorders; sleep disorders; attention-deficit disorder, autistic spectrum disorders, Rett syndrome, Fragile X syndrome, Asperger syndrome; disruptive behaviour disorders; restless leg syndrome; pain; osteoporosis and neurodegenerative disorders.

24. Use of a compound according to any one of claims 1 to 20, or a pharmaceutically acceptable salt or solvate therefore in the manufacture of a medicament for treating a disease or condition selected from schizophrenia and other psychotic disorders; dementia and other cognitive disorders; anxiety disorders; mood disorders; addiction including substance dependence, alcohol dependence, nicotine dependence or gambling disorder; eating disorders; sleep disorders; attention-deficit disorder, autistic spectrum disorders, Rett syndrome, Fragile X syndrome, Asperger syndrome; disruptive behaviour disorders; restless leg syndrome; pain; osteoporosis and neurodegenerative disorders.