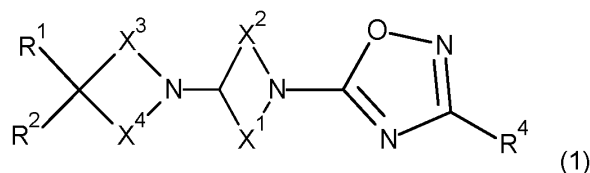


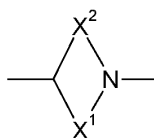
CLAIMS

1. A compound of the formula (1):



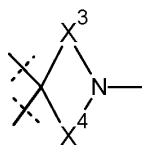
or a salt thereof, wherein:

- 5 X¹ and X² are saturated hydrocarbon groups which together contain a total of five to nine carbon atoms and zero or one oxygen atoms and which link together such that the moiety:



forms a monocyclic or bicyclic ring system;

- 10 X³ and X⁴ are saturated hydrocarbon groups which together contain a total of three to six carbon atoms and which link together such that the moiety:



forms a monocyclic or bicyclic ring system;

- 15 R¹ is selected from NR⁵R⁶; CONR⁵R⁶; COOR⁷; an optionally substituted 5- or 6-membered ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof; or R¹ is linked to R² to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof;
- 20 R² is selected from hydrogen; fluorine; cyano; hydroxy; amino; and a C₁₋₃ hydrocarbon group which is optionally substituted with one to six fluorine atoms and wherein one of the carbon atoms of the hydrocarbon group may optionally be replaced by a heteroatom selected from O, N and S and oxidized forms thereof, or R² is linked to R¹ to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof;
- 25 R⁴ is H, halo, OH, CN, a C₁₋₆ alkyl group or a C₃₋₆ cycloalkyl group, wherein the alkyl and cycloalkyl groups are optionally substituted with one or more fluorine atoms, and

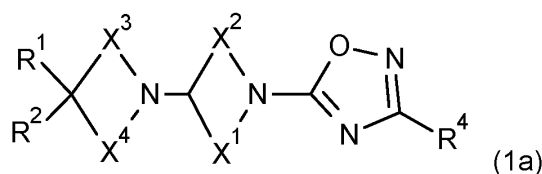
wherein any one atom of the alkyl or cycloalkyl group may be optionally replaced by an O heteroatom;

R^5 is selected from hydrogen, COCH_3 , a non-aromatic C_{1-10} hydrocarbon group optionally substituted with one or more fluorine atoms wherein any one atom of the C_{1-10} hydrocarbon group may be optionally replaced by a heteroatom selected from O, N and S, a group $-(\text{CH}_2)_n\text{-aryl}$, wherein n is 0-3, or R^5 can be joined together with R^6 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof;

R^6 is selected from hydrogen, a non-aromatic C_{1-10} hydrocarbon group optionally substituted with one or more fluorine atoms wherein any one atom of the C_{1-10} hydrocarbon group may be optionally replaced by a heteroatom selected from O, N and S, a group $-(\text{CH}_2)_n\text{-aryl}$, wherein n is 0-3, or R^6 can be joined together with R^5 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof; and

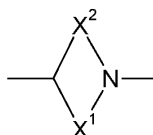
R^7 is a non-aromatic C_{1-6} hydrocarbon group optionally substituted with one or more fluorine atoms.

2. The compound according to claim 1 which is a compound of formula 1a:



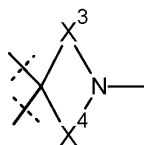
or a salt thereof, wherein:

X^1 and X^2 are saturated hydrocarbon groups which together contain a total of five to nine carbon atoms and zero or one oxygen atoms and which link together such that the moiety:



forms a monocyclic or bicyclic ring system;

X^3 and X^4 are saturated hydrocarbon groups which together contain a total of three to five carbon atoms and which link together such that the moiety:



forms a monocyclic or bicyclic ring system;

R^1 is selected from NR^5R^6 ; $CONR^5R^6$; $COOR^7$; an optionally substituted 5- or 6-membered ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof; or R^1 is linked to R^2 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof;

R^2 is selected from hydrogen; fluorine; cyano; hydroxy; amino; and a C_{1-3} hydrocarbon group which is optionally substituted with one to six fluorine atoms and wherein one of the carbon atoms of the hydrocarbon group may optionally be replaced by a heteroatom selected from O, N and S and oxidized forms thereof, or R^2 is linked to R^1 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof;

R^4 is H or a C_{1-3} alkyl group;

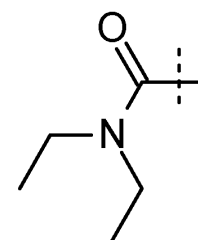
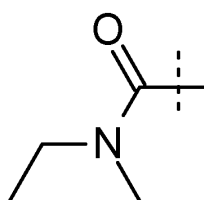
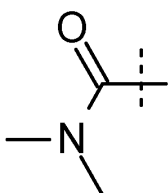
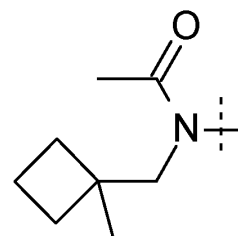
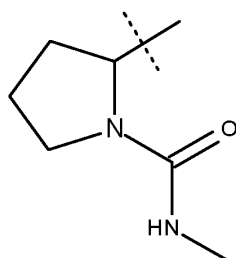
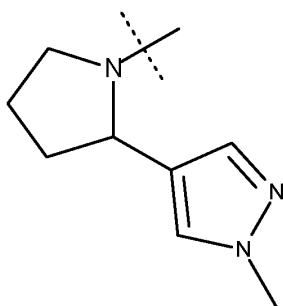
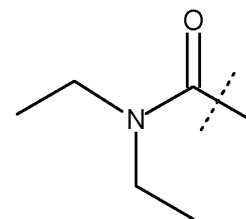
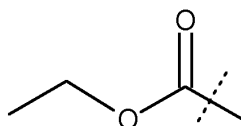
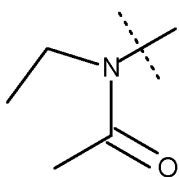
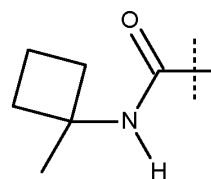
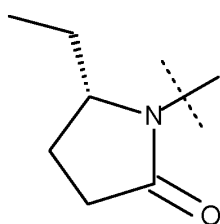
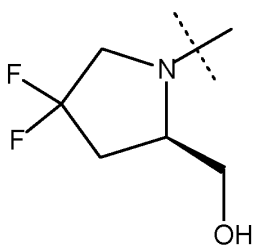
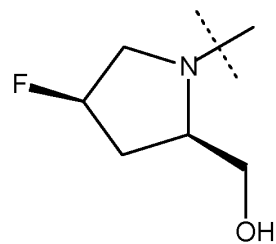
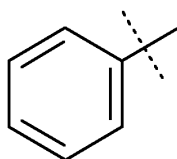
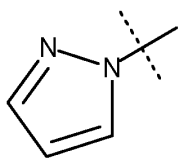
R^5 is selected from hydrogen, $COCH_3$, a non-aromatic C_{1-6} hydrocarbon group optionally substituted with one or more fluorine atoms, or R^5 can be joined together with R^6 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof;

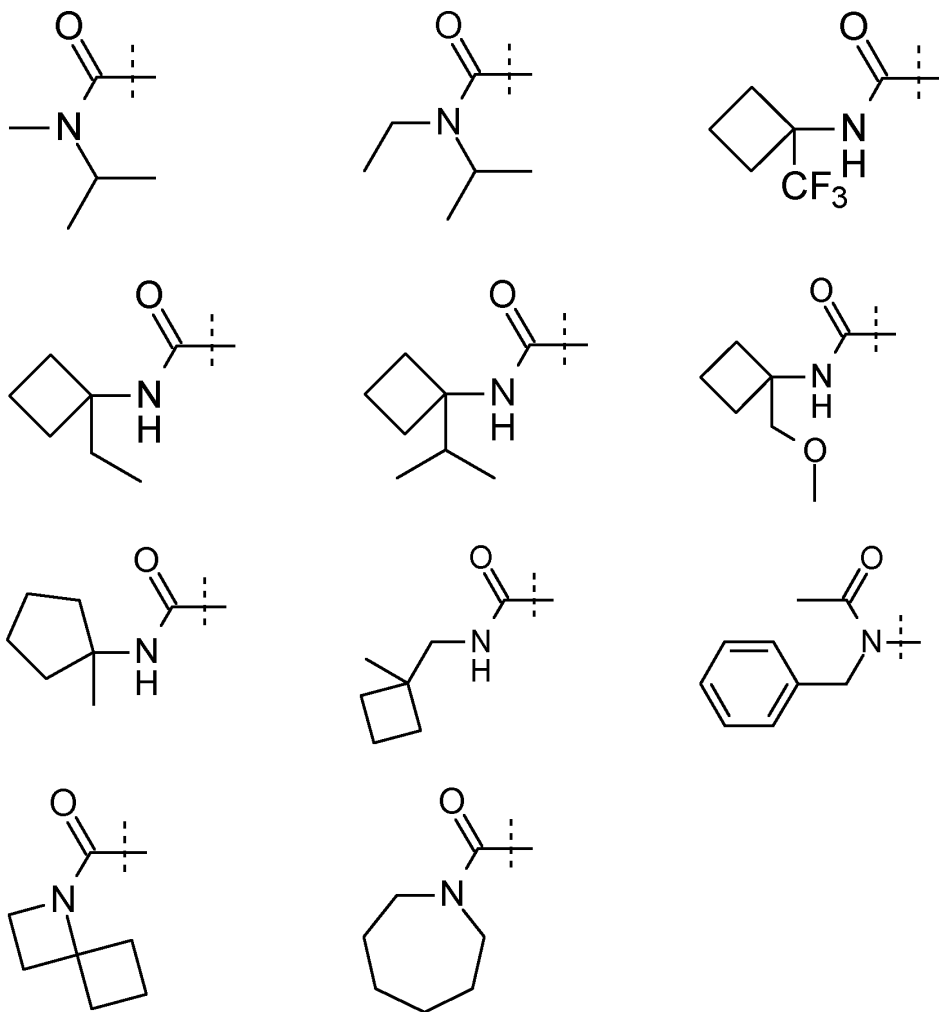
R^6 is selected from hydrogen, a non-aromatic C_{1-6} hydrocarbon group optionally substituted with one or more fluorine atoms or R^6 can be joined together with R^5 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof; and

R^7 is a non-aromatic C_{1-6} hydrocarbon group optionally substituted with one or more fluorine atoms.

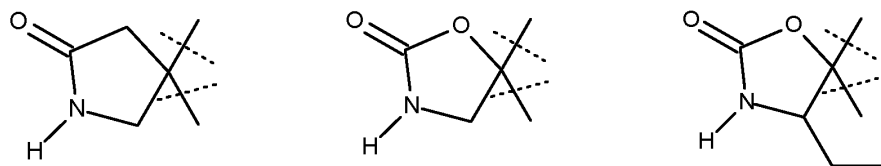
3. The compound according to claim 1 or claim 2 wherein R^1 is selected from NR^5R^6 ; $CONR^5R^6$; $COOR^7$; an optionally substituted 5- or 6-membered ring containing 0, 1, or 2 nitrogen heteroatoms; or R^1 is linked to R^2 to form an optionally substituted monocyclic or bicyclic ring.
4. The compound according to claim 1 or claim 2 wherein R^1 is linked to R^2 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1 or 2 heteroatoms selected from O or N.

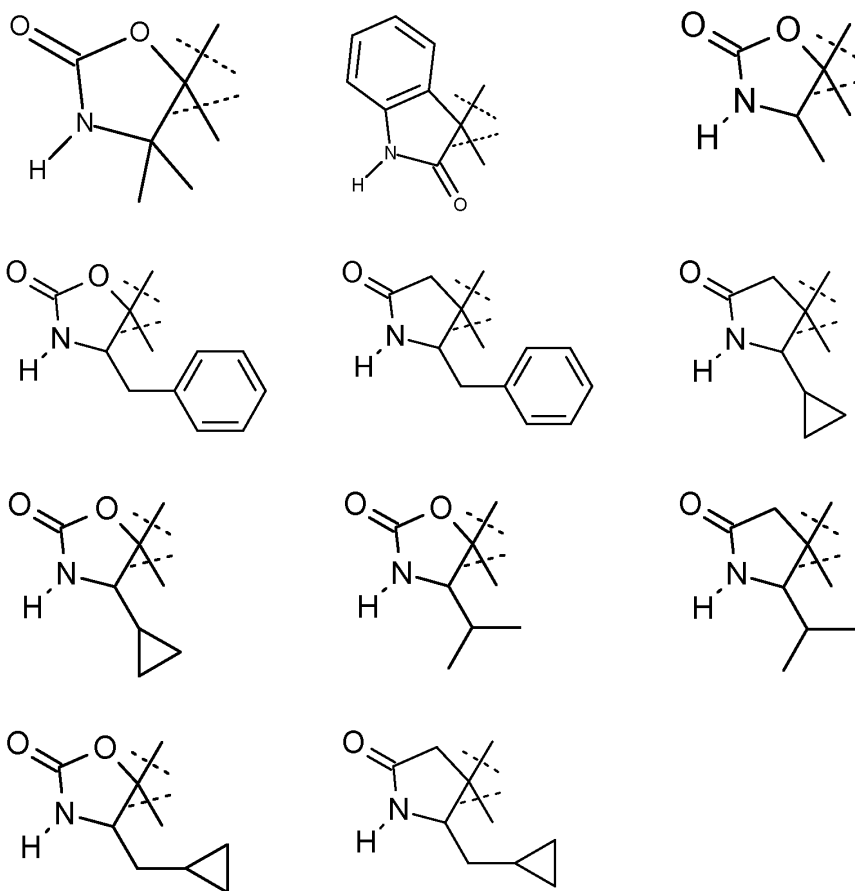
5. The compound according to claim 4 wherein R^1 is linked to R^2 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1 or 2 heteroatoms selected from O or N, wherein the optional substituents are selected from C_1 - C_6 alkyl, C_1 - C_3 alkoxy, halogen, cyano, oxo, hydroxyl, amino or a group $-(CH_2)_n$ -aryl wherein n is 0-3.
- 5 6. The compound according to claim 1 or claim 2 wherein R^1 is selected from NR^5R^6 ; $CONR^5R^6$; or $COOR^7$.
7. The compound according to claim 1 or claim 2 wherein R^1 is an optionally substituted 5- or 6-membered ring containing 0, 1 or 2 nitrogen heteroatoms, wherein the optional substituents are selected from, C_1 - C_3 alkyl, C_1 - C_3 alkoxy, $CONR^5R^6$,
10 halogen, cyano, oxo, hydroxyl, amino or an optionally substituted heterocyclic ring containing 1 or 2 heteroatoms selected from O or N wherein the optional substituent is C_1 - C_3 alkyl.
8. The compound according to claim 6 or claim 7 wherein R^2 is H or cyano.
9. The compound according to claim 1 or claim 2 wherein R^1 is selected from NR^5R^6 ;
15 $CONR^5R^6$; or $COOR^7$ and R^5 is selected from $COCH_3$, a non-aromatic C_{1-6} hydrocarbon group, or R^5 can be joined together with R^6 to form an optionally substituted monocyclic or bicyclic ring containing 0, 1, 2 or 3 heteroatoms selected from O, N and S and oxidized forms thereof.
10. The compound according to claim 9 wherein R^5 is selected from $COCH_3$, a non-
20 aromatic C_{1-6} hydrocarbon group or R^5 can be joined together with R^6 to form an optionally substituted monocyclic ring, wherein the optional substituents are selected from C_1 - C_3 alkyl, C_1 - C_3 alkoxy, halogen, cyano, oxo, hydroxyl or amino.
11. The compound according to claim 9 or claim 10 wherein R^6 is selected from hydrogen, a non-aromatic C_{1-6} hydrocarbon group, or R^6 can be joined together with
25 R^5 to form an optionally substituted monocyclic ring wherein the optional substituents are selected from C_1 - C_3 alkyl, C_1 - C_3 alkoxy, halogen, cyano, oxo, hydroxyl or amino, wherein the C_1 - C_3 alkyl or C_1 - C_3 alkoxy groups can have an optional substituent selected from halogen, cyano, oxo, hydroxyl or amino.
12. The compound according to claim 1 or claim 2 wherein R^1 is $COOR^7$ and R^7 is C_1 - C_3
30 alkyl.
13. The compound according to claim 1 wherein R^1 is selected from





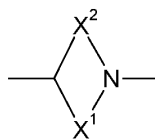
14. The compound according to claim 4 or claim 5 wherein R^1 is linked to R^2 to form a moiety selected from:



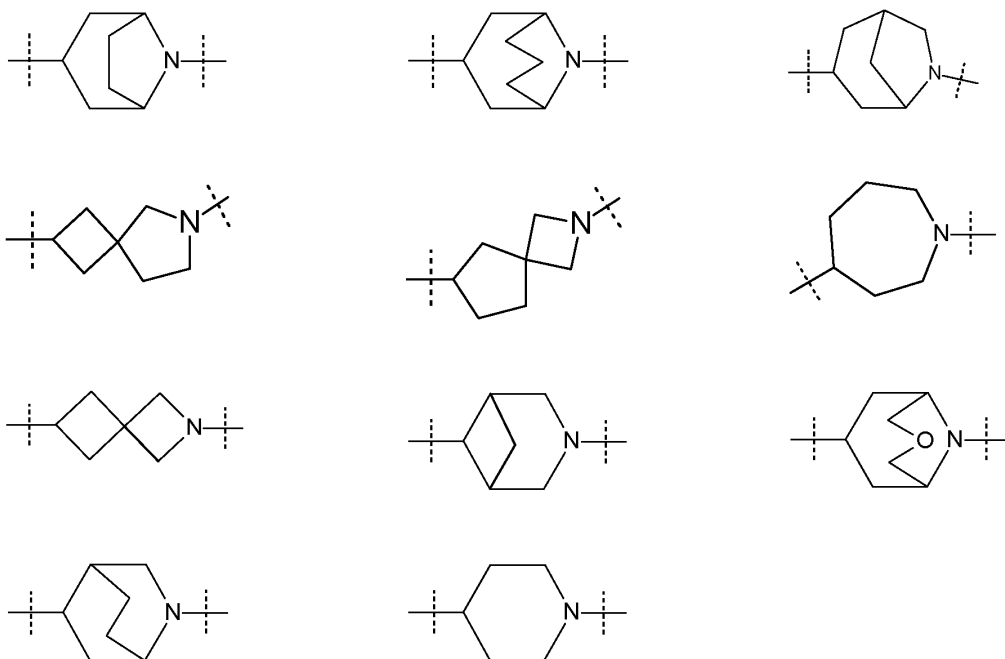


15. The compound according to claim 1 wherein R^4 is methyl, trifluoromethyl, ethyl, isopropyl or cyclopropyl.
16. The compound according to any one of claims 1 to 15 wherein the ring system formed by the moiety:

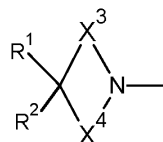
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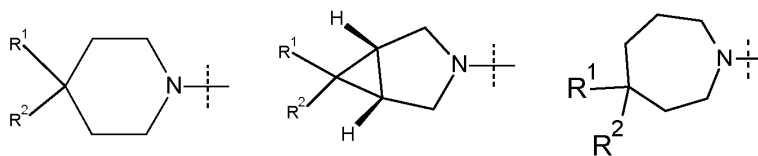
is selected from:



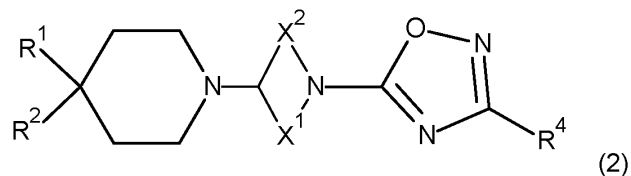
17. The compound according to any one of claims 1 to 16 wherein the ring system formed by the moiety:



5 is selected from:



18. The compound according to claim 1 of the formula (2):

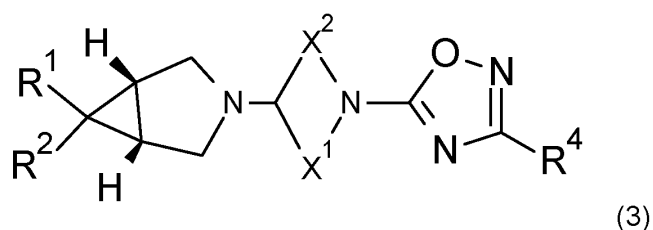


or a salt thereof wherein:

X¹, X², R¹, R² and R⁴ are as defined in any one of claims 1 to 16.

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19. The compound according to claim 1 of the formula (3):

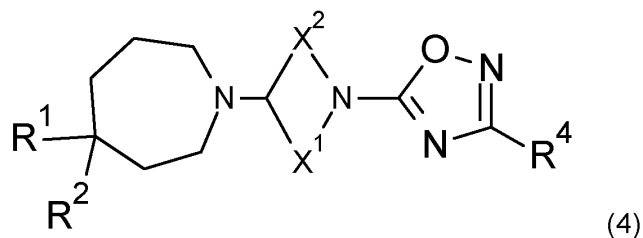


or a salt thereof wherein:

X¹, X², R¹, R² and R⁴ are as defined in any one of claims 1 to 16.

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20. The compound according to claim 1 of the formula (4):



or a salt thereof wherein:

X¹, X², R¹, R² and R⁴ are as defined in any one of claims 1 to 16.

15

21. The compound according to claim 1 which is selected from;
 2-(3-Methyl-1,2,4-oxadiazol-5-yl)-6-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-2-azaspiro[3.3]heptane;
 6-(3-Methyl-1,2,4-oxadiazol-5-yl)-2-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-6-azaspiro[3.4]octane;

20

- 1-[6-(3-Methyl-1,2,4-oxadiazol-5-yl)-6-azaspiro[3.4]oct-2-yl]-4-phenylpiperidine-4-carbonitrile;
- Ethyl (1R,5S,6r)-3-[6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azaspiro[3.4]oct-2-yl]-3-azabicyclo[3.1.0]hexane-6-carboxylate;
- 5 2-(3-Methyl-1,2,4-oxadiazol-5-yl)-6-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-2-azaspiro[3.4]octane;
- 1'-[3-Methyl-1,2,4-oxadiazol-5-yl]-4-(1H-pyrazol-1-yl)-1,4'-bipiperidine;
- 3-(3-Methyl-1,2,4-oxadiazol-5-yl)-6-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-3-azabicyclo[3.1.1]heptane;
- 10 8-(3-Methyl-1,2,4-oxadiazol-5-yl)-3-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-8-azabicyclo[3.2.1]octane;
- 8-[8-(3-Methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]oct-3-yl]-2,8-diazaspiro[4.5]decan-3-one;
- 8-[8-(3-Ethyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]oct-3-yl]-2,8-diazaspiro[4.5]decan-3-one;
- 15 8-[8-(3-Methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- N-(1-Methylcyclobutyl)-1-[8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]oct-3-yl]piperidine-4-carboxamide;
- 20 2-(3-Methyl-1,2,4-oxadiazol-5-yl)-5-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-2-azabicyclo[2.2.2]octane;
- 9-(3-Methyl-1,2,4-oxadiazol-5-yl)-3-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-9-azabicyclo[3.3.1]nonane;
- 8-[9-(3-Methyl-1,2,4-oxadiazol-5-yl)-9-azabicyclo[3.3.1]non-3-yl]-2,8-diazaspiro[4.5]decan-3-one;
- 25 8-[9-(3-Methyl-1,2,4-oxadiazol-5-yl)-9-azabicyclo[3.3.1]non-3-yl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- N-(1-Methylcyclobutyl)-1-[9-(3-methyl-1,2,4-oxadiazol-5-yl)-9-azabicyclo[3.3.1]non-3-yl]piperidine-4-carboxamide;
- 30 9-(3-Methyl-1,2,4-oxadiazol-5-yl)-7-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-3-oxa-9-azabicyclo[3.3.1]nonane;
- (1R,5S,6r)-N,N-Diethyl-3-[9-(3-methyl-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]non-7-yl]-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 1-(3-Methyl-1,2,4-oxadiazol-5-yl)-4-[4-(1H-pyrazol-1-yl)piperidin-1-yl]azepane;
- 35 8-[1-(3-Methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]-2,8-diazaspiro[4.5]decan-3-one;

- 8-[1-(3-Methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 4-Ethyl-8-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 5 4,4-Dimethyl-8-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 1'-[1-(3-Methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]spiro[indole-3,4'-piperidin]-2(1H)-one;
- [(2R,4R)-4-Fluoro-1-{1-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]piperidin-4-yl}pyrrolidin-2-yl]methanol;
- 10 [(2R)-4,4-Difluoro-1-{1-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]piperidin-4-yl}pyrrolidin-2-yl]methanol;
- (5S)-5-Ethyl-1-{1-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]piperidin-4-yl}pyrrolidin-2-one;
- 15 1-(3-Methyl-1,2,4-oxadiazol-5-yl)-4-{4-[2-(1-methyl-1H-pyrazol-4-yl)pyrrolidin-1-yl]piperidin-1-yl}azepane;
- N-Ethyl-N-{1-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]piperidin-4-yl}acetamide;
- (2S)-N-Methyl-2-{1-[1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl]piperidin-4-yl}pyrrolidine-1-carboxamide;
- 20 6-(3-Methyl-1,2,4-oxadiazol-5-yl)-3-[4-(1H-pyrazol-1-yl)piperidin-1-yl]-6-azabicyclo[3.2.1]octane;
- 8-[6-(3-Methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]oct-3-yl]-2,8-diazaspiro[4.5]decan-3-one;
- 8-[6-(3-Methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]oct-3-yl]-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 25 8-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 30 8-(8-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(8-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- (1R,5S,6r)-3-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azaspiro[3.4]octan-6-yl)-N-(1-methylcyclobutyl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 35

- 1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-N-(1-(trifluoromethyl)cyclobutyl)piperidine-4-carboxamide;
N-(1-ethylcyclobutyl)-1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidine-4-carboxamide;
- 5 N-(1-isopropylcyclobutyl)-1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidine-4-carboxamide;
1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-N-(1-methylcyclopentyl)piperidine-4-carboxamide;
- 10 1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-N-((1-methylcyclobutyl)methyl)piperidine-4-carboxamide;
(1R,5S,6r)-3-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-N-(1-methylcyclobutyl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 15 N-(1-methylcyclobutyl)-1-(8-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidine-4-carboxamide;
- 1-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-N-(1-methylcyclobutyl)piperidine-4-carboxamide;
- 1-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-N-((1-methylcyclobutyl)methyl)piperidine-4-carboxamide;
- 20 N-(1-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]nonan-7-yl)piperidin-4-yl)-N-((1-methylcyclobutyl)methyl)acetamide;
- N-(1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidin-4-yl)-N-((1-methylcyclobutyl)methyl)acetamide;
- N-(1-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)piperidin-4-yl)-N-((1-methylcyclobutyl)methyl)acetamide;
- 25 N-benzyl-N-(1-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]nonan-7-yl)piperidin-4-yl)acetamide;
- ((1R,5S,6r)-3-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]nonan-7-yl)-3-azabicyclo[3.1.0]hexan-6-yl)(1-azaspiro[3.3]heptan-1-yl)methanone;
- 30 (1R,5S,6r)-N-isopropyl-N-methyl-3-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]nonan-7-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N,N-diethyl-3-(9-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]nonan-7-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N-ethyl-N-methyl-3-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;

- (1R,5S,6r)-N,N-diethyl-3-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N,N-diethyl-3-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azaspiro[3.4]octan-6-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 5 (1R,5S,6r)-N-ethyl-N-methyl-3-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azaspiro[3.4]octan-6-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- N,N-diethyl-1-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azaspiro[3.4]octan-6-yl)piperidine-4-carboxamide;
- 8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-
- 10 diazaspiro[4.6]undecan-3-one;
- 8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.6]undecan-2-one;
- 8-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-2,8-diazaspiro[4.6]undecan-3-one;
- 15 8-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-1-oxa-3,8-diazaspiro[4.6]undecan-2-one;
- 8-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.6]undecan-3-one;
- 8-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-
- 20 diazaspiro[4.6]undecan-2-one;
- ((1R,5S,6r)-3-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexan-6-yl)(1-azaspiro[3.3]heptan-1-yl)methanone;
- (1R,5S,6r)-N,N-diethyl-3-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 25 (1R,5S,6r)-N-ethyl-N-isopropyl-3-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N-isopropyl-N-methyl-3-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N-ethyl-N-methyl-3-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-9-
- 30 azabicyclo[3.3.1]nonan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N,N-diethyl-3-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-9-azabicyclo[3.3.1]nonan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 8-(1-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)azepan-4-yl)-2,8-diazaspiro[4.5]decan-3-one;

- 8-(1-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)azepan-4-yl)-2,8-diazaspiro[4.6]undecan-3-one;
- 8-(1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl)-2,8-diazaspiro[4.6]undecan-3-one;
- 8-(1-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)azepan-4-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 8-(8-(3-ethyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 8-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 8-(6-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)-6-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 4-methyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- (1R,5S,6r)-3-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azaspiro[3.4]octan-2-yl)-N-(1-methylcyclobutyl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- N-(1-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azaspiro[3.4]octan-2-yl)piperidin-4-yl)-N-((1-methylcyclobutyl)methyl)acetamide;
- N-(1-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-3-oxa-9-azabicyclo[3.3.1]nonan-7-yl)piperidin-4-yl)-N-((1-methylcyclobutyl)methyl)acetamide;
- N-(1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidin-4-yl)-N-((1-methylcyclobutyl)methyl)acetamide;
- (1R,5S,6r)-N-isopropyl-N-methyl-3-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N-ethyl-N-methyl-3-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-N-ethyl-N-methyl-3-(9-(3-methyl-1,2,4-oxadiazol-5-yl)-9-azabicyclo[3.3.1]nonan-3-yl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- 8-(1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 8-(1-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)azepan-4-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(1-(3-(trifluoromethyl)-1,2,4-oxadiazol-5-yl)azepan-4-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 8-(8-(3-cyclopropyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;

- 8-(8-(3-isopropyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(8-(3-ethyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 5 4-benzyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 1-isopropyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 4-isopropyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 10 1-cyclopropyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(8-(3-cyclopropyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 8-(8-(3-isopropyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 15 N-benzyl-N-(1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidin-4-yl)acetamide;
- (1R,5S,6r)-N,N-diethyl-3-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azaspiro[3.3]heptan-6-yl)-3-azabicyclo[3.1.0]hexan-6-carboxamide;
- 20 ((1R,5S,6r)-3-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azaspiro[3.4]octan-2-yl)-3-azabicyclo[3.1.0]hexan-6-yl)(1-azaspiro[3.3]heptan-1-yl)methanone;
- azepan-1-yl(1-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)piperidin-4-yl)methanone;
- 25 1-(cyclopropylmethyl)-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 4-(cyclopropylmethyl)-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 4-cyclopropyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;
- 30 1-benzyl-8-(6-(3-methyl-1,2,4-oxadiazol-5-yl)-6-azaspiro[3.4]octan-2-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 4-benzyl-8-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azaspiro[3.3]heptan-6-yl)-1-oxa-3,8-diazaspiro[4.5]decan-2-one;

- 1-benzyl-8-(1-(3-methyl-1,2,4-oxadiazol-5-yl)azepan-4-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.6]undecan-3-one;
- 5 1-benzyl-8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-2,8-diazaspiro[4.5]decan-3-one;
- 8-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-1-oxa-3,8-diazaspiro[4.6]undecan-2-one;
- 10 (1R,5S,6r)-3-(8-(3-methyl-1,2,4-oxadiazol-5-yl)-8-azabicyclo[3.2.1]octan-3-yl)-N-(1-(trifluoromethyl)cyclobutyl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- (1R,5S,6r)-3-(2-(3-methyl-1,2,4-oxadiazol-5-yl)-2-azabicyclo[2.2.2]octan-5-yl)-N-(1-(trifluoromethyl)cyclobutyl)-3-azabicyclo[3.1.0]hexane-6-carboxamide;
- or a salt thereof.
- 15 22. The compound according to any one of claims 1 to 21 for use in medicine.
23. A pharmaceutical composition comprising a compound as defined in any one of claims 1 to 21 and a pharmaceutically acceptable excipient.
24. The compound according to any one of claims 1 to 21 having muscarinic M₁ and/or M₄ receptor agonist activity.
- 20 25. The compound according to claims 1 to 21 for use in the treatment of a cognitive disorder or psychotic disorder or for the treatment or lessening the severity of acute, chronic, neuropathic, or inflammatory pain.
26. A compound according to claim 25 wherein the cognitive disorder is Alzheimers disease.
- 25 27. A compound according to claim 25 wherein the cognitive disorder is dementia with Lewy bodies.