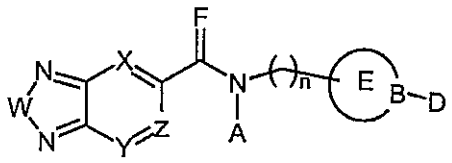
What is claimed is:

1. Use of a compound according to the formula:



I

wherein:

W is oxygen, sulfur or CH=CH;

X, Y and Z are independently selected from the group consisting of -N, or -CR,
wherein:

R is H, -Br, -Cl, -F, -CN, $-NO_2$, $-OR^1$, $-SR^1$, $-NR^1_2$, $-C_1$-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

wherein:

R^1 is H, $-C_1$-C_6 branched or un-branched alkyl which, may be un-substituted or substituted,

F = O or S,

A is H, or $-C_1$-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, -C 2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, $-C_2$-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, $-C_3$-C_7 cycloalkyl which may be un-substituted or substituted, $-C_3$-C_7 alkylcycloalkyl which may be un-substituted or substituted, aryl or heterocycle which may be un-substituted or substituted, alkylaryl which may be un-substituted or substituted, alkylheterocycle which may be un-substituted or substituted

n = 0, 1, 2, 3, 4, 5, or 6;



is a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, a -C_4-C_7 azacycloalkyl, which may be un-substituted or substituted, a -C_7-C_{10} bicycloalkyl which may be un-substituted or substituted, a -C_7-C_{10} azabicycloalkyl which may be un-substituted or substituted, aryl which may be un-substituted or substituted or a heterocycle which may be un--substituted or substituted;

B is –C=, C-R^a, O, N, S, C=O, S=O or SO_2;

R^a is H, a halogen (preferably F), OH, Oalkyl, cyano, or a -C_1-C_6 alkyl group which is un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with D; and

D is absent when B is O, S, C=O, S=O or SO_2, or if present, is bonded to B when B is –C=, -C-R^a or N, and is H, a halogen (preferably F), OR^b, a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with R^a, a

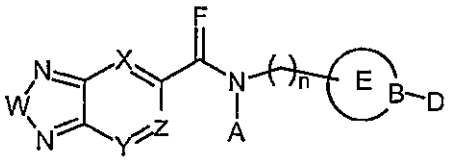
-C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, a -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, an aryl which may be un-substituted or substituted , a heterocycle which may be un-substituted or substituted, a -C_2-C_7 carboxyalkyl which may be un-substituted or substituted, a carboxyaryl which may be un-substituted or substituted, a carboxyheteroaryl which may be un-substituted or substituted, a -C_1-C_7 sulfonylalkyl which may be un-substituted or substituted, a sulfonylaryl which may be un-substituted or substituted or a sulfonylheteroaryl which may be un-substituted or substituted, or when B is –C-R^a, R^a and D optionally form a =N-R^c or a =N-OR^c group with B, wherein R^c is H or an unsubstituted or substituted C_1-C_7 alkyl group; and

R^b is H, a -C_1-C_7 alkyl group which may be branched or un-branched, un-substituted or substituted or a -C_2-C_7 acyl group which may be un-substituted or substituted;

or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for the treatment of a mammalian subject, wherein the subject suffers from a hypoglutamatergic

condition or a deficiency in the number or strength of excitatory synapses or in the number of AMPA receptors, such that memory or other cognitive functions are impaired.

2. Use of a compound according to the formula:



I

wherein:

W is oxygen, sulfur or CH=CH;

X, Y and Z are independently selected from the group consisting of -N, or -CR,
wherein:

R is H, -Br, -Cl, -F, -CN, -NO_2, -OR^1, -SR^1, -NR^1_2, -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

wherein:

R^1 is H, -C_1-C_6 branched or un-branched alkyl which, may be un-substituted or substituted,

F = O or S,

A is H, or -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, -C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, -C_3-C_7 cycloalkyl which may be un-substituted or substituted, -C_3-C_7 alkylcycloalkyl which may be un-substituted

or substituted, aryl or heterocycle which may be un-substituted or substituted, alkylaryl which may be un-substituted or substituted, alkylheterocycle which may be un-substituted or substituted

n = 0, 1, 2, 3, 4, 5, or 6;

E B is a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, a -C_4-C_7 azacycloalkyl, which may be un-substituted or substituted, a -C_7-C_{10} bicycloalkyl which may be un-substituted or substituted, a -C_7-C_{10} azabicycloalkyl which may be un-substituted or substituted, aryl which may be un-substituted or substituted or a heterocycle which may be un--substituted or substituted;

B is –C=, C-R^a, O, N, S, C=O, S=O or SO_2;

R^a is H, a halogen (preferably F), OH, Oalkyl, cyano, or a -C_1-C_6 alkyl group which is un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with D; and

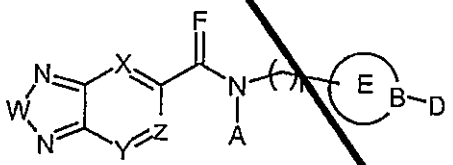
D is absent when B is O, S, C=O, S=O or SO_2, or if present, is bonded to B when B is –C=, -C-R^a or N, and is H, a halogen (preferably F), OR^b, a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with R^a, a

-C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, a -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, an aryl which may be un-substituted or substituted , a heterocycle which may be un-substituted or substituted, a -C_2-C_7 carboxyalkyl which may be un-substituted or substituted, a carboxyaryl which may be un-substituted or substituted, a carboxyheteroaryl which may be un-substituted or substituted, a -C_1-C_7 sulfonylalkyl which may be un-substituted or substituted, a sulfonylaryl which may be un-substituted or substituted or a sulfonylheteroaryl which may be un-substituted or substituted, or when B is –C-R^a, R^a and D optionally form a =N-R^c or a =N-OR^c group with B, wherein R^c is H or an unsubstituted or substituted C_1-C_7 alkyl group; and

R is H, a -C_1-C_7 alkyl group which may be branched or un-branched, un-substituted or substituted or a -C_2-C_7 acyl group which may be un-substituted or substituted;
or a pharmaceutically acceptable salt thereof in the manufacturer of a medicament for the treatment of a mammalian subject, wherein the subject suffers from a hypoglutamatergic condition or deficiencies in the number or strength of excitatory synapses or in the number of AMPA receptors such that a cortical/striatal imbalance occurs leading to schizophrenia or schizophreniform behavior.

3. Use according to claim 1 wherein said treatment is for schizophrenia or for Parkinson's disease.

4. Use of a compound according to the formula:



I

wherein:

W is oxygen, sulfur or CH=CH;

X, Y and Z are independently selected from the group consisting of -N or -CR,

wherein:

R is H, -Br, -Cl, -F, -CN, -NO_2, -OR^1, -SR^1, -NR^1_2, -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

wherein:

R^1 is H, -C_1-C_6 branched or un-branched alkyl which, may be un-substituted or substituted,

F = O or S,

A is H, or -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

-C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, -C_3-C_7 cycloalkyl which may be un-substituted or substituted, -C_3-C_7 alkylcycloalkyl which may be un-substituted or substituted, aryl or heterocycle which may be un-substituted or substituted, alkylaryl which may be un-substituted or substituted, alkylheterocycle which may be un-substituted or substituted

n = 0, 1, 2, 3, 4, 5, or 6;

E B is a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, a -C_4-C_7 azacycloalkyl, which may be un-substituted or substituted, a -C_7-C_{10} bicycloalkyl which may be un-substituted or substituted, a -C_7-C_{10} azabicycloalkyl which may be un-substituted or substituted, aryl which may be un-substituted or substituted or a heterocycle which may be un--substituted or substituted;

B is –C=, C-R^a, O, N, S, C=O, S=O or SO_2;

R^a is H, a halogen (preferably F), OH, Oalkyl, cyano, or a -C_1-C_6 alkyl group which is un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with D; and

D is absent when B is O, S, C=O, S=O or SO_2, or if present, is bonded to B when B is –C=, -C-R^a or N, and is H, a halogen (preferably F), OR', a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with R^a, a

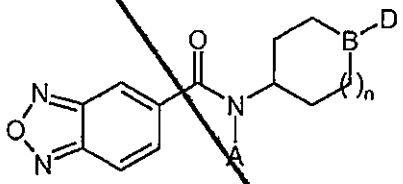
-C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, a -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, an aryl which may be un-substituted or substituted , a heterocycle which may be un-substituted or substituted, a -C_2-C_7 carboxyalkyl which may be un-substituted or substituted, a carboxyaryl which may be un-substituted or substituted, a carboxyheteroaryl which may be un-substituted or substituted, a -C_1-C_7 sulfonylalkyl which may be un-substituted or substituted, a sulfonylaryl which may be un-

substituted or substituted or a sulfonylheteroaryl which may be un-substituted or substituted, or when B is –C-R^a, R^a and D optionally form a =N-R^c or a =N-OR^c group with B, wherein R^c is H or an unsubstituted or substituted C_1-C_7 alkyl group; and

R^b is H, a C_1-C_7 alkyl group which may be branched or un-branched, un-substituted or substituted or a -C_2-C_7 acyl group which may be un-substituted or substituted;

or a pharmaceutically acceptable salt thereof for the treatment of a disease state or condition selected from the group consisting of ADHD, Rett syndrome, fragile-X syndrome, respiratory depression, breathing related disorders, sleep apnea, Alzheimer's disease or cognitive disorders.

5. Use according to any of claims 1-4 wherein said compound is according to according to formula II:



II

wherein:

A is -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, a -C_3-C 7 cycloalkyl which may be un-substituted or substituted;

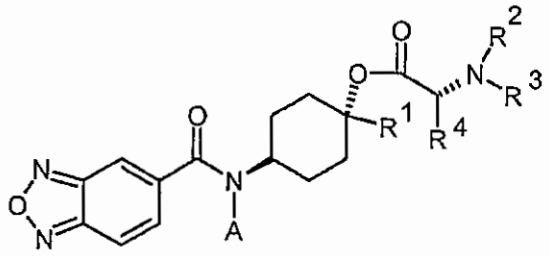
n is 0, 1, 2, or 3; and

B is C-R^a, C=O or O;

R^a is H, OH, alkyl or F; and

D is absent, is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt.

6. Use according to any of claims 1-4 wherein said compound is according to formula IX:



IX

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R^1 is H, or C_1-C_4 alkyl,

R^2 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted,

R^3 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted,

R^4 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted, or a pharmaceutically acceptable salt thereof.

7. Use according to any of claims 1-4 wherein said compound is

N-Cyclohexyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopentyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Cyanocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(4-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-methylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide, or

N-(4-*trans*-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide.

8. Use according to any of claims 1-4 wherein said compound is

N-Cycloheptyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4,4-Dimethylcyclohexyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-spiro[2.5]oct-6-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclobutyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclohexyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopentyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclobutyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Cyanocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-D_3-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Tetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Tetrahydro-2*H*-pyran-3-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-N-(tetrahydro-2*H*-pyran-3-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Ethyl-*N*-tetrahydro-2H-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclohexyl-*N*-ethyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Cyclohexylmethyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Benzyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydrofuran-2-ylmethyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-pyridin-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-phenyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopropyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Tetrahydro-2*H*-pyran-4-yl-*N*-(2,2,2-trifluoroethyl)-[2,1,3]-benzoxadiazole-5-carboxamide

tert-Butyl-4-[[2,1,3]-benzoxadiazol-5-ylcarbonyl)(methyl)amino]piperidine-1-carboxylate

N-Methyl-*N*-piperidin-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide hydrochloride

N-Methyl-*N*-(1-methylpiperidin-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(1-Acetylpiperidin-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(1-Formylpiperidin-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-[1-(methylsulfonyl]piperidin-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydro-2H-pyran-4-yl)-[2,1,3]-benzothiadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(1-oxidotetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(1,1-dioxidotetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-ylquinoxaline-6-carboxamide

N-[4-(Hydroxyimino)cyclohexyl]-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-[4-(Methoxyimino)cyclohexyl]-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4,4-Difluorocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-fluorocyclohex-3-en-1-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-*trans*-Hydroxycyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-methylcyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Hydroxy-4-methylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Hydroxy-4-ethylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-ethylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Ethynyl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-But-3-en-1-yl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-But-3-en-1-yl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-*trans*-Hydroxycyclohexyl)-*N*-D_3-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Methoxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Methoxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carbothioamide

N-(4-*cis*-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-[*trans*-4-(2*H*-tetrazol-2-yl)cyclohexyl]-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Azidocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Aminocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-3-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-3-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(3-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(3,3-difluorocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2,2-difluorocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxytetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-oxotetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2-oxotetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxytetrahydro-2*H*-pyran-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N- (*R*)-Tetrahydrofuran-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(*R*)-tetrahydrofuran-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-2-(4-Morpholinyl)ethyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-2-(4-morpholinyl)ethyl-[2,1,3]-benzoxadiazole-5-carboxamide hydrochloride

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carbothioamide or

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-ylmethyl-[2,1,3]-benzoxadiazole-5-carboxamide.

9. Use according to any of claims 1-4 wherein said compound is:

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl *N*,*N*-dimethyl glycinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl L-alaninate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl L-valinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]-1-methylcyclohexyl *N*,*N*-dimethyl glycinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]-1-methylcyclohexyl glycinate hydrochloride, or

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl glycinate hydrochloride.

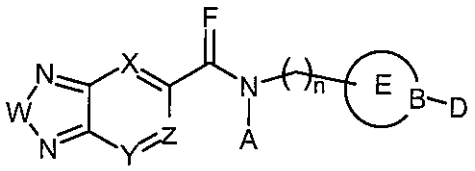
10. Use according to claim 4 wherein said compound is combined with an opiate or opioid analgesic in the manufacture of a medicament and wherein the disease state or condition is respiratory depression.

11. Use according to claim 4 wherein said compound is combined with an anesthetic agent in the manufacture of a medicament and wherein said disease state or condition is of respiratory depression.

12. Use according to claim 4 wherein said compound is combined with at least one acetylcholinesterase inhibitor in the manufacture of a medicament for the treatment of Alzheimer's disease.

Claims

1. Use of a pharmaceutical composition in the manufacture of a medicament for the treatment of a mammalian subject, wherein the subject suffers from a hypoglutamatergic condition or a deficiency in the number or strength of excitatory synapses or in the number of AMPA receptors, such that memory or other cognitive functions are impaired, the composition comprising, in a pharmaceutically acceptable carrier, an effective amount of a compound according to the chemical formula:



I

wherein:

W is oxygen;

X, Y and Z are each independently -CR,

wherein:

R is H, -Br, -Cl, -F, -CN, -NO_2, -OR^1, -SR^1, -NR^1_2, -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

wherein:

R^1 is H, -C_1-C_6 branched or un-branched alkyl which, may be un-substituted or substituted,

F = O or S,

A is a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, -C 2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, -C_3-C_7 cycloalkyl which may be un-substituted or substituted, -C_3-C_7 alkylcycloalkyl which may be un-substituted or substituted, aryl or heterocycle which may be un-substituted or substituted, alkylaryl which may be un-substituted or substituted, alkylheterocycle which may be un-substituted or substituted

n = 0, 1, 2, 3, 4, 5, or 6;


is a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, a -C_4-C_7 azacycloalkyl, which may be un-substituted or substituted, a -C_7-C_{10} bicycloalkyl which may be un-substituted or substituted, a -C_7-C_{10} azabicycloalkyl which may be un-substituted or substituted, aryl which may be un-substituted or substituted or a heterocycle which may be un-substituted or substituted;

B is –C=, C-R^a, O, N, S, C=O, S=O or SO_2;

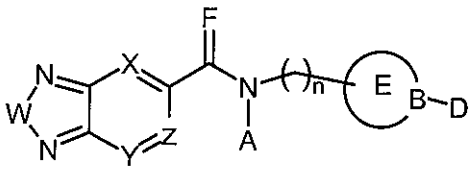
R^a is H, a halogen, OH, O-alkyl, cyano, or a -C_1-C_6 alkyl group which is un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with D; and D is absent when B is O, S, C=O, S=O or SO_2, or if present, is bonded to B when B is –C=, -C-R^a or N, and is H, a halogen, OR^b, a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with R^a, a -C 2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, a -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, an aryl which may be un-substituted or substituted , a heterocycle which may be un-substituted or substituted, a -C_2-C_7 carboxyalkyl which may be un-substituted or substituted, a carboxyaryl which may be un-substituted or substituted, a carboxyheteroaryl which may be un-substituted or substituted, a -C_1-C_7 sulfonylalkyl which may be un-substituted or substituted, a sulfonylaryl which may be un-substituted or substituted or a sulfonylheteroaryl which may be un-substituted or substituted, or when B is –C-R^a, R^a and D optionally form a =N-R^c or a =N-OR^c group with B, wherein R^c is H or an unsubstituted or substituted C_1-C_7 alkyl group; and

R^b is H, a -C_1-C_7 alkyl group which may be branched or un-branched, un-substituted or substituted or a -C_2-C_7 acyl group which may be un-substituted or substituted;

or a pharmaceutically acceptable salt thereof.

2. Use of a pharmaceutical composition in the manufacture of a medicament for the treatment of a mammalian subject, wherein the subject suffers from a hypoglutamatergic condition or deficiencies in the number or strength of excitatory synapses or in the number of AMPA

receptors such that a cortical/striatal imbalance occurs leading to schizophrenia or schizophreniform behavior, the composition comprising, in a pharmaceutically acceptable carrier, an effective amount of a compound according to the formula:



I

wherein:

W is oxygen;

X, Y and Z are each independently -CR,

wherein:

R is H, -Br, -Cl, -F, -CN, -NO_2, -OR^1, -SR^1, -NR^1_2, -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

wherein:

R^1 is H, -C_1-C_6 branched or un-branched alkyl which, may be un-substituted or substituted,

F = O or S,

A is a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, -C $_2$-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, -C_3-C_7 cycloalkyl which may be un-substituted or substituted, -C_3-C_7 alkylcycloalkyl which may be un-substituted or substituted, aryl or heterocycle which may be un-substituted or substituted, alkylaryl which may be un-substituted or substituted, alkylheterocycle which may be un-substituted or substituted

n = 0, 1, 2, 3, 4, 5, or 6;



is a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, a -C_4-C_7 azacycloalkyl, which may be un-substituted or substituted, a -C_7-C_{10} bicycloalkyl which may be un-substituted or substituted, a -C_7-C_{10} azabicycloalkyl which may be un-substituted

or substituted, aryl which may be un-substituted or substituted or a heterocycle which may be un-substituted or substituted;

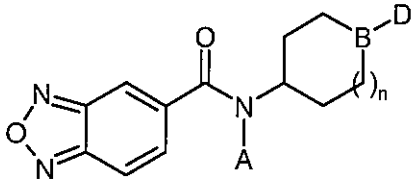
B is –C=, C-R^a, O, N, S, C=O, S=O or SO_2;

R^a is H, a halogen, OH, O-alkyl, cyano, or a -C_1-C_6 alkyl group which is un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with D; and D is absent when B is O, S, C=O, S=O or SO_2, or if present, is bonded to B when B is –C=, -C-R^a or N, and is H, a halogen (preferably F), OR^b, a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with R^a, a -C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, a -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, a -C_3 -C_7 cycloalkyl which may be un-substituted or substituted, an aryl which may be un-substituted or substituted , a heterocycle which may be un-substituted or substituted, a -C_2-C 7 carboxyalkyl which may be un-substituted or substituted, a carboxyaryl which may be un-substituted or substituted, a carboxyheteroaryl which may be un-substituted or substituted, a -C_1-C_7 sulfonylalkyl which may be un-substituted or substituted, a sulfonylaryl which may be un-substituted or substituted or a sulfonylheteroaryl which may be un-substituted or substituted, or when B is –C-R^a, R^a and D optionally form a =N-R^c or a =N-OR^c group with B, wherein R^c is H or an unsubstituted or substituted C_1-C_7 alkyl group; and

R^b is H, a -C_1-C_7 alkyl group which may be branched or un-branched, un-substituted or substituted or a -C_2-C_7 acyl group which may be un-substituted or substituted;

or a pharmaceutically acceptable salt thereof.

3. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease. and said compound is according to the formula II:



II

wherein:

A is -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, a -C 3-C_7 cycloalkyl which may be un-substituted or substituted;

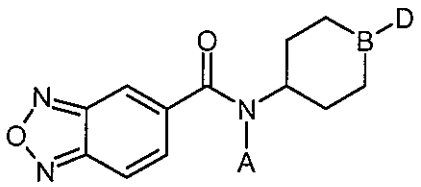
n is 0, 1, 2, or 3; and

B is C-R^a, C=O or O;

R^a is H, OH, alkyl or F; and

D is absent, is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

4. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is according to formula III:



III

wherein:

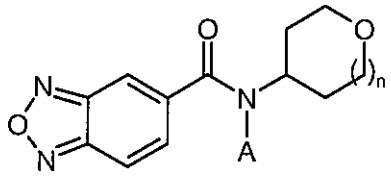
A is a C_1-C_6 alkyl which may be substituted or un-substituted

B is C-R^a, O or C=O;

R^a is H, F, -OH or alkyl and

D is absent (when B is O), is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

5. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is according to formula IV:



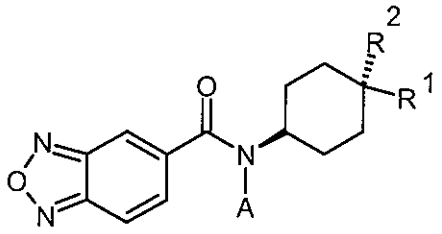
IV

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

n is 0, 1 or 2, or a pharmaceutically acceptable salt thereof.

6. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is according to formula V:



V

wherein:

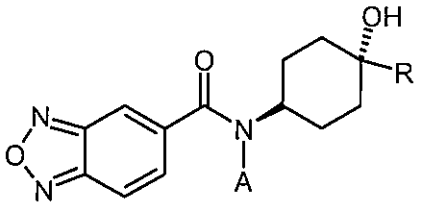
A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R^1 is H, F, or C_1-C_4 alkyl,

R^2 is H, F, CN, a heterocycle which may be substituted or un-substituted or OR^3,

R^3 is H, C_1-C_6 alkyl which may be substituted or un-substituted, or a pharmaceutically acceptable salt thereof.

7. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is according to formula VI:



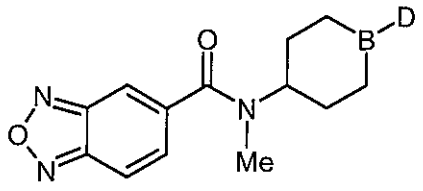
VI

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R is H, or C_1-C_4 alkyl, or a pharmaceutically acceptable salt thereof.

8. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is according to formula VII:



VII

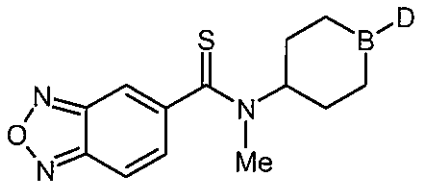
wherein:

B is C-R^a, O or C=O;

R^a is H, F, -OH or alkyl and

D is absent (when B is O), is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

9. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is according to formula VIII:



VIII

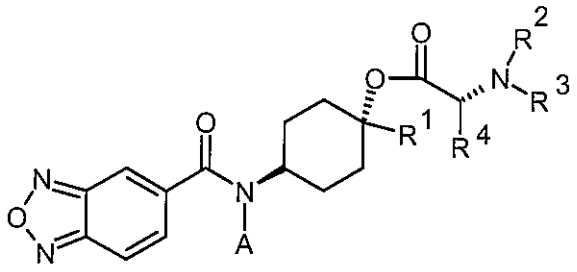
wherein:

B is C-R^a, O or C=O;

R^a is H, F, -OH or alkyl and

D is absent (when B is O), is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

10. Use according to claim 2 wherein said compound is according to formula IX:



IX

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R^1 is H, or C_1-C_4 alkyl,

R^2 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted,

R^3 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted,

R^4 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted, or a pharmaceutically acceptable salt thereof.

11. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is:

N-Cyclohexyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopentyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Cyanocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(4-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-methylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

or

N-(4-*trans*-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide.

12. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is:

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl *N*,*N*-dimethyl glycinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl L-alaninate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl L-valinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]-1-methylcyclohexyl *N*,*N*-dimethyl glycinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]-1-methylcyclohexyl glycinate hydrochloride or

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl glycinate hydrochloride.

13. Use according to claim 2 wherein said condition or deficiency is schizophrenia or parkinson's disease and said compound is:

N-Cycloheptyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4,4-Dimethylcyclohexyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-spiro[2.5]oct-6-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclobutyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclohexyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopentyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclobutyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Cyanocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-D_3-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Tetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Tetrahydro-2*H*-pyran-3-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-N-(tetrahydro-2*H*-pyran-3-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Ethyl-*N*-tetrahydro-2H-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclohexyl-*N*-ethyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Cyclohexylmethyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Benzyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydrofuran-2-ylmethyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-pyridin-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-phenyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopropyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Tetrahydro-2*H*-pyran-4-yl-*N*-(2,2,2-trifluoroethyl)-[2,1,3]-benzoxadiazole-5-carboxamide

tert-Butyl-4-[([2,1,3]-benzoxadiazol-5-ylcarbonyl)(methyl)amino]piperidine-1-carboxylate

N-Methyl-*N*-piperidin-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide hydrochloride

N-Methyl-*N*-(1-methylpiperidin-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(1-Acetylpiperidin-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(1-Formylpiperidin-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-[1-(methylsulfonyl]piperidin-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(1-oxidotetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(1,1-dioxidotetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-[4-(Hydroxyimino)cyclohexyl]-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-[4-(Methoxyimino)cyclohexyl]-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4,4-Difluorocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-fluorocyclohex-3-en-1-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-*trans*-Hydroxycyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-methylcyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Hydroxy-4-methylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Hydroxy-4-ethylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-ethylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Ethynyl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-But-3-en-1-yl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-But-3-en-1-yl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-*trans*-Hydroxycyclohexyl)-*N*-D_3-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Methoxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Methoxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carbothioamide

N-(4-*cis*-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-[*trans*-4-(2*H*-tetrazol-2-yl)cyclohexyl]-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Azidocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Aminocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-3-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-3-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(3-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(3,3-difluorocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2,2-difluorocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxytetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-oxotetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2-oxotetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxytetrahydro-2*H*-pyran-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N- (*R*)-Tetrahydrofuran-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(*R*)-tetrahydrofuran-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

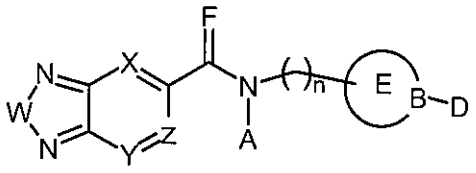
N-2-(4-Morpholinyl)ethyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-2-(4-morpholinyl)ethyl-[2,1,3]-benzoxadiazole-5-carboxamide hydrochloride

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carbothioamide or

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-ylmethyl-[2,1,3]-benzoxadiazole-5-carboxamide.

14. Use of a composition in the manufacture of a medicament for treating a disease state or condition in a patient in need, wherein said disease state or condition is schizophrenia, ADHD, Rett Syndrome, Fragile-X syndrome, respiratory depression, breathing related sleep disorders or Alzheimer's disease, the composition comprising, in a pharmaceutically acceptable carrier, a compound according to the chemical formula:



I

wherein:

W is oxygen;

X, Y and Z are each independently -CR,

wherein:

R is H, -Br, -Cl, -F, -CN, -NO_2, -OR^1, -SR^1, -NR^1_2, -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted,

wherein:

R^1 is H, -C_1-C_6 branched or un-branched alkyl which, may be un-substituted or substituted,

F = O or S,

A is a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, -C 2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, -C_3-C_7 cycloalkyl which may be un-substituted or substituted, -C_3-C_7 alkylcycloalkyl which may be un-substituted or substituted, aryl or heterocycle which may be un-substituted or substituted, alkylaryl which may be un-substituted or substituted, alkylheterocycle which may be un-substituted or substituted

n = 0, 1, 2, 3, 4, 5, or 6;

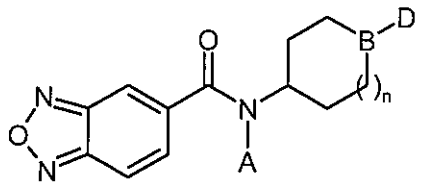
 is a -C_3-C_7 cycloalkyl which may be un-substituted or substituted, a -C_4-C_7 azacycloalkyl, which may be un-substituted or substituted, a -C_7-C_{10} bicycloalkyl which may be un-substituted or substituted, a -C_7-C_{10} azabicycloalkyl which may be un-substituted or substituted, aryl which may be un-substituted or substituted or a heterocycle which may be un-substituted or substituted;

B is –C=, C-R^a, O, N, S, C=O, S=O or SO_2;

R^a is H, a halogen, OH, O-alkyl, cyano, or a -C_1-C_6 alkyl group which is un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with D; and D is absent

when B is O, S, C=O, S=O or SO_2, or if present, is bonded to B when B is –C=, -C-R^a or N, and is H, a halogen (preferably F), OR^b, a -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted and which optionally, forms a C_3-C_7 cycloalkyl group with R^a, a -C_2-C_6 branched or un-branched alkenyl, which may be un-substituted or substituted, a -C_2-C_6 branched or un-branched alkynyl, which may be un-substituted or substituted, a -C_3 -C_7 cycloalkyl which may be un-substituted or substituted, an aryl which may be un-substituted or substituted , a heterocycle which may be un-substituted or substituted, a -C_2-C 7 carboxyalkyl which may be un-substituted or substituted, a carboxyaryl which may be un-substituted or substituted, a carboxyheteroaryl which may be un-substituted or substituted, a -C_1-C_7 sulfonylalkyl which may be un-substituted or substituted, a sulfonylaryl which may be un-substituted or substituted or a sulfonylheteroaryl which may be un-substituted or substituted, or when B is –C-R^a, R^a and D optionally form a =N-R^c or a =N-OR^c group with B, wherein R^c is H or an unsubstituted or substituted C_1-C_7 alkyl group; and
R^b is H, a -C_1-C_7 alkyl group which may be branched or un-branched, un-substituted or substituted or a -C_2-C_7 acyl group which may be un-substituted or substituted;
or a pharmaceutically acceptable salt thereof.

15. Use according to claim 14 wherein said compound is according to the formula II:

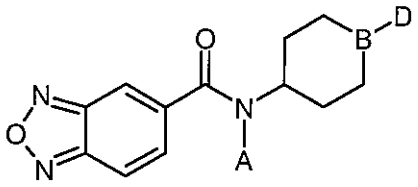


II

wherein:
A is -C_1-C_6 branched or un-branched alkyl, which may be un-substituted or substituted, a -C_3-C_7 cycloalkyl which may be un-substituted or substituted;
n is 0, 1, 2, or 3; and
B is C-R^a, C=O or O;
R^a is H, OH, alkyl or F; and

D is absent, is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

16. Use according to claim 14 wherein said compound is according to formula III:



III

wherein:

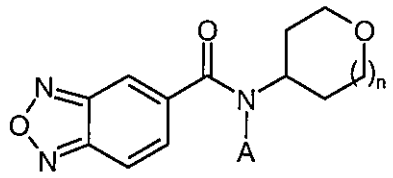
A is a C_1-C_6 alkyl which may be substituted or un-substituted

B is C-R^a, O or C=O;

R^a is H, F, -OH or alkyl and

D is absent (when B is O), is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

17. Use according to claim 14 wherein said compound is according to formula IV:



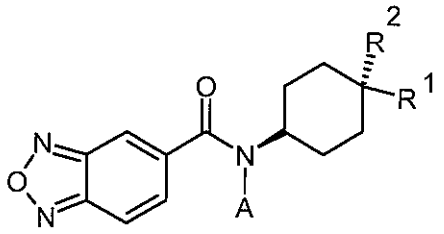
IV

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

n is 0, 1 or 2, or a pharmaceutically acceptable salt thereof.

18. Use according to claim 14 wherein said compound is according to formula V:



V

wherein:

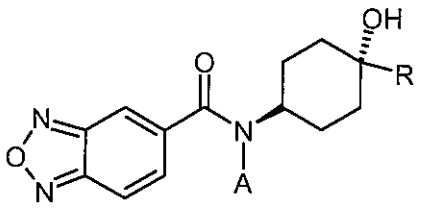
A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R^1 is H, F, or C_1-C_4 alkyl,

R^2 is H, F, CN, a heterocycle which may be substituted or un-substituted or OR^3,

R^3 is H, C_1-C_6 alkyl which may be substituted or un-substituted, or a pharmaceutically acceptable salt thereof.

19. Use according to claim 14 wherein said compound is according to formula VI:



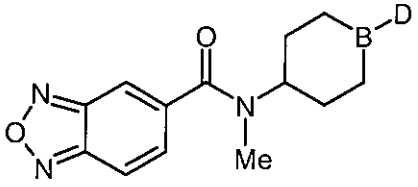
VI

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R is H, or C_1-C_4 alkyl, or a pharmaceutically acceptable salt thereof.

20. Use according to claim 14 wherein said compound is according to formula VII:



VII

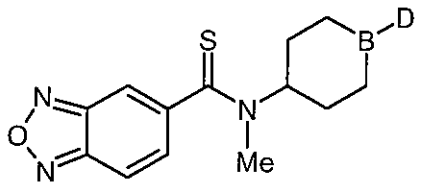
wherein:

B is C-R^a, O or C=O;

R^a is H, F, -OH or alkyl and

D is absent, is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

21. Use according to claim 14 wherein said compound is according to formula VIII:



VIII

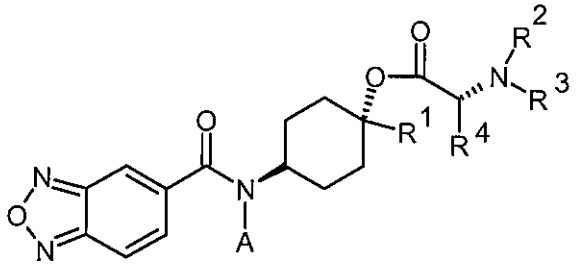
wherein:

B is C-R^a, O or C=O;

R^a is H, F, -OH or alkyl and

D is absent, is H or OH when R^a is H or alkyl, or is F when R^a is F, or a pharmaceutically acceptable salt thereof.

22. Use according to claim 14 wherein said compound is according to formula IX:



IX

wherein:

A is a C_1-C_6 alkyl which may be substituted or un-substituted,

R^1 is H, or C_1-C_4 alkyl,

R^2 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted,

R^3 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted,

R^4 is H, or a C_1-C_6 alkyl which may be substituted or un-substituted, or a pharmaceutically acceptable salt thereof.

23. Use according to claim 14 wherein said compound is:

N-Cyclohexyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopentyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Cyanocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(4-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-methylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

or

N-(4-*trans*-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide.

24 Use according to claim 14 wherein said compound is:

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl *N*,*N*-dimethyl glycinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl L-alaninate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl L-valinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]-1-methylcyclohexyl *N*,*N*-dimethyl glycinate hydrochloride

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]-1-methylcyclohexyl glycinate hydrochloride or

trans-4-[(2,1,3-Benzoxadiazol-5-ylcarbonyl)(methyl)amino]cyclohexyl glycinate hydrochloride.

25. Use according to claim 14 wherein said compound is:

N-Cycloheptyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4,4-Dimethylcyclohexyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-spiro[2.5]oct-6-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclobutyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclohexyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopentyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclobutyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Cyanocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-D_3-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Tetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Tetrahydro-2*H*-pyran-3-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-N-(tetrahydro-2*H*-pyran-3-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Ethyl-*N*-tetrahydro-2H-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclohexyl-*N*-ethyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(Cyclohexylmethyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Benzyl-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydrofuran-2-ylmethyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-pyridin-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-phenyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Cyclopropyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Tetrahydro-2*H*-pyran-4-yl-*N*-(2,2,2-trifluoroethyl)-[2,1,3]-benzoxadiazole-5-carboxamide

tert-Butyl-4-[([2,1,3]-benzoxadiazol-5-ylcarbonyl)(methyl)amino]piperidine-1-carboxylate

N-Methyl-*N*-piperidin-4-yl-[2,1,3]-benzoxadiazole-5-carboxamide hydrochloride

N-Methyl-*N*-(1-methylpiperidin-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(1-Acetylpiperidin-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(1-Formylpiperidin-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-[1-(methylsulfonyl]piperidin-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(tetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(1-oxidotetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(1,1-dioxidotetrahydro-2*H*-thiopyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-[4-(Hydroxyimino)cyclohexyl]-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-[4-(Methoxyimino)cyclohexyl]-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4,4-Difluorocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-fluorocyclohex-3-en-1-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-*trans*-Hydroxycyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-methylcyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Hydroxy-4-methylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Hydroxy-4-ethylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Hydroxy-4-ethylcyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-Ethynyl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-4-But-3-en-1-yl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-But-3-en-1-yl-4-hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(4-*trans*-Hydroxycyclohexyl)-*N*-D_3-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Methoxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Methoxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carbothioamide

N-(4-*cis*-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-[*trans*-4-(2*H*-tetrazol-2-yl)cyclohexyl]-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Azidocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-4-Aminocyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*cis*-3-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-(*trans*-3-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(3-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(3,3-difluorocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxycyclohexyl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2-oxocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2,2-difluorocyclohexyl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxytetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-oxotetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(2-oxotetrahydro-2*H*-pyran-4-yl)-[2,1,3]-benzoxadiazole-5-carboxamide

N-(2-Hydroxytetrahydro-2*H*-pyran-4-yl)-*N*-methyl-[2,1,3]-benzoxadiazole-5-carboxamide

N- (*R*)-Tetrahydrofuran-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-(*R*)-tetrahydrofuran-3-yl-[2,1,3]-benzoxadiazole-5-carboxamide

N-2-(4-Morpholinyl)ethyl-[2,1,3]-benzoxadiazole-5-carboxamide

N-Methyl-*N*-2-(4-morpholinyl)ethyl-[2,1,3]-benzoxadiazole-5-carboxamide hydrochloride

N-Methyl-*N*-tetrahydro-2*H*-pyran-4-yl-[2,1,3]-benzoxadiazole-5-carbothioamide or

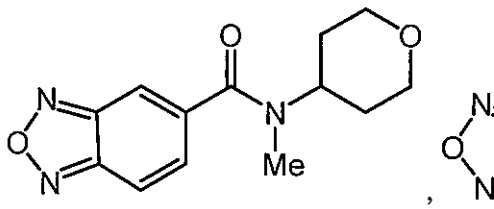
N-Methyl-*N*-tetrahydro-2*H*-pyran-4-ylmethyl-[2,1,3]-benzoxadiazole-5-carboxamide.

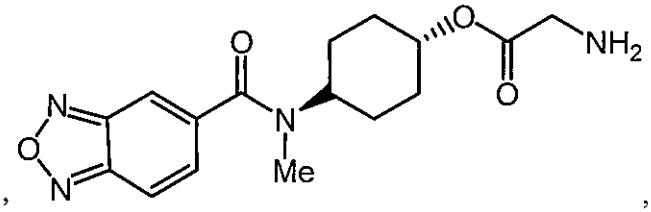
26. Use according to any of claims 14-25 wherein said condition or disease state is respiratory depression.

27. Use according to claim 26 wherein said composition is administered in combination with an opiate or opioid analgesic.

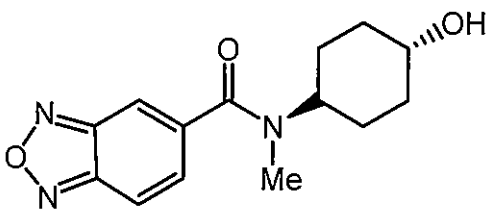
28. Use according to claim 26 wherein said compound is administered in combination with an anesthetic agent or a barbiturate.

29. Use according to claim 26, 27 or 28 wherein said compound is



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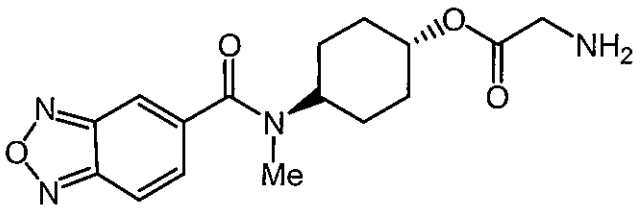
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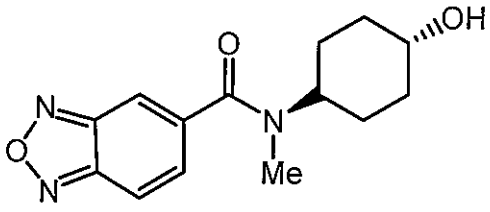
or

a pharmaceutically acceptable salt thereof.

30. Use according to any of claims 26-29 wherein said compound is



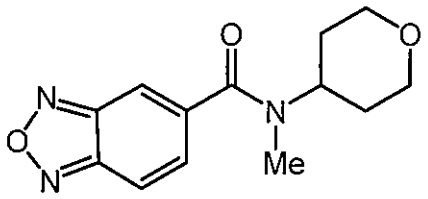
or



, or

a pharmaceutically acceptable sale thereof..

31. Use according to any of claims 26-29 wherein said compound is



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