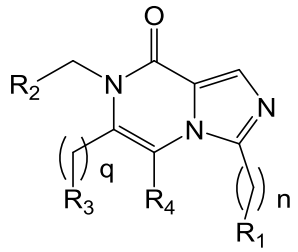
Claims

1. Use of a compound of Formula (I)



(I)

wherein

n is 0 or 1;

q is 0 or 1;

R1 is selected from the group consisting of benzyl, indanyl, indoline and 5-membered heteroaryls; all of which can be substituted with a substituent selected from the group consisting of halogen and C_1-C_3 alkyl; or

R1 is selected from the group consisting of saturated monocyclic rings containing 4-6 carbon atoms and 1-2 nitrogen atoms; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl, fluorine and sulfonamide; or

R1 is selected from the group consisting of lactams containing 4-6 carbon atoms; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl and fluorine; or

R1 is selected from the group consisting of bicyclic ethers such as, 7-oxabicyclo[2.2.1]heptane; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl and fluorine; or

R1 is selected from the group consisting of linear or branched C_1-C_8 alkyl, saturated monocyclic C_3-C_8 cycloalkyl, oxetanyl, tetrahydrofuranyl and tetrahydropyranyl; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl, fluorine, hydroxy, cyano or methoxy; or

R1 is a linear or branched C_1-C_3 alkyl, which is substituted with a substituent selected from phenyl and 5-membered heteroaryl, wherein said 5-membered heteroaryl can be substituted with one or more C_1-C_3 alkyls; or

R1 is selected from the group consisting of morpholine, tetrahydrofuran-3-amine, hexahydro-2*H*-furo[3,2-b]pyrrole and homomorpholine; all of which can be subsituted with one or more substituents selected from the group consisting of C_1-C_3 alkyl;

R2 is selected from the group consisting of hydrogen, linear or branched C_1-C_8 alkyl, phenyl, saturated monocyclic C_3-C_8 cycloalkyl, oxetanyl, benzo[*d*][1,3]dioxolyl, tetrahydrofuranyl and tetrahydropyranyl; or

R2 is phenyl or pyridyl substituted with one or more substituents selected from the group consisting of hydroxyl, amino, cyano, halogen, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_3-C_5 cycloalkoxy, C_3-C_5 cycloalkyl-methoxy, C_1-C_3 fluoroalkoxy, and -NHC(O)CH_3; or

R2 is a 5-membered heteroaryl which can be substituted with one or more C_1-C_3 alkyl;

R3 is selected from the group consisting of hydrogen, halogen, C_1-C_5 alkyl, C_3-C_5 cycloalkyl and phenyl; or

R3 is selected from the group consisting of phenyl substituted one or more times with C_1-C_3 alkyl; methyl substituted one, two or three times with fluorine; ethyl substituted one, two or three times with fluorine;

R4 is hydrogen;

and tautomers and pharmaceutically acceptable addition salts thereof;

with the proviso that R2 and R3 cannot be hydrogen at the same time; in the manufacture of a medicament for treatment of a neurodegenerative and/or cognitive disorder; wherein said compound of Formula (I) is to be administered in combination with 2) a compound useful in active or passive Tau immunotherapy selected from: an antibody or a fragment thereof directed against phosphorylated Tau protein, an antibody or a fragment thereof directed against hyperphosphorylated Tau protein, or a fragment of the Tau protein amino acid sequence, a compound useful in active or passive Aβ peptide immunotherapy selected from: an anti-Aβ peptide antibody or a fragment thereof, or a fragment of the Aβ peptide amino acid sequence, an NMDA receptor antagonist, an acetylcholine esterase inhibitor, a BACE inhibitor, a 5-HT6 receptor antagonist, an antiepileptic, an anti-inflammatory drug or an anti-N3-pGlu Abeta monoclonal antibody.

2. The use according to claim 1, wherein

R1 is selected from the group consisting of linear or branched C_1-C_8 alkyl, saturated monocyclic C_3-C_8 cycloalkyl, oxetanyl, tetrahydrofuranyl, and tetrahydropyranyl;

R2 is selected from the group consisting of, linear or branched C_1-C_8 alkyl, phenyl, and saturated monocyclic C_3-C_8 cycloalkyl; or

R2 is selected from the group consisting of phenyl substituted with a substituent selected from the group consisting of halogen, C_1-C_3 alkyl and methoxy;

R3 is selected from the group consisting of hydrogen, C_1-C_3 alkyl and halogen;

R4 is hydrogen.

3. The use according to claim 1, wherein said compound of formula (I) is selected from the group consisting of:

7-(3-Fluorobenzyl)-3-propylimidazo[1,5-a]pyrazin-8(7*H*)-one;

6-Benzyl-7-(3-fluorobenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-Benzyl-7-(cyclohexylmethyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cyclohexylmethyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-Fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-Cyclopropyl-7-(3-fluorobenzyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cyclopentylmethyl)-3-cyclopropylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cyclohexylmethyl)-3-cyclopropylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-Fluorobenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cyclopentylmethyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cyclohexylmethyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cycloheptylmethyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(Cycloheptylmethyl)-3-cyclopropylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-Chlorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-Bromo-7-(3-fluorobenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-Benzyl-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(2-Fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-Chlorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(2-Chlorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-Methoxybenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-Methyl-7-(2-methylbenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-Methyl-7-(4-methylbenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-Methoxybenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-Fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-Methyl-7-(3-methylbenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-fluorobenzyl)-6-methyl-3-(4-methyltetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

4-(7-(3-fluorobenzyl)-6-methyl-8-oxo-7,8-dihydroimidazo[1,5-a]pyrazin-3-yl)tetrahydro-2*H*-pyran-4-carbonitrile;

7-(3-fluorobenzyl)-3-(4-methoxytetrahydro-2*H*-pyran-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-fluorobenzyl)-3-(4-fluorotetrahydro-2*H*-pyran-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

(*R*)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-2-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

(*S*)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-2-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

(*R*)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

(*S*)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

(*R*)-7-(3-fluorobenzyl)-6-methyl-3-(3-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

(*S*)-7-(3-fluorobenzyl)-6-methyl-3-(3-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-(1-methylcyclopropyl)imidazo[1,5-*a*]pyrazin-8(7*H*)-one ;

3-(2,2-difluorocyclopropyl)-7-(3-fluorobenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-fluorobenzyl)-6-methyl-3-((1*R*,2*S*)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((1*R*,2*R*)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((1*S*,2*S*)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((1*S*,2*R*)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((2*S*,3*R*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((2*S*,3*S*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((2*R*,3*R*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-6-methyl-3-((2*R*,3*S*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-3-((1*R*,2*S*)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-3-((1*R*,2*R*)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-3-((1*S*,2*S*)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(3-fluorobenzyl)-3-((1*S*,2*R*)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(4-cyclopropoxybenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-(difluoromethoxy)benzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)-7-(4-(trifluoromethoxy)benzyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-(cyclopropylmethoxy)benzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-benzyl-6-ethyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-ethyl-7-(4-methoxybenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-((6-methyl-8-oxo-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)benzonitrile;

4-((6-methyl-8-oxo-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)benzonitrile;

N-(4-((6-methyl-8-oxo-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)phenyl)acetamide;

7-(4-chloro-3-methoxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(2-ethylbenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(benzo[d][1,3]dioxol-5-ylmethyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-chloro-4-methoxybenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-aminobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-hydroxybenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-ethyl-7-(3-fluorobenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-((2*S*,3*R*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(4-methoxybenzyl)-6-methyl-3-((2*S*,3*S*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(4-methoxybenzyl)-6-methyl-3-((2*R*,3*R*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(4-methoxybenzyl)-6-methyl-3-((2*R*,3*S*)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

7-(4-methoxybenzyl)-6-methyl-3-propylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-((6-methoxypyridin-3-yl)methyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-ethyl-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-7-propyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-isopropyl-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-isopentyl-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(cyclopentylmethyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

2-((6-methyl-8-oxo-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)benzonitrile;

7-(cycloheptylmethyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-(3-methyltetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-((1R,2R,4S)-2-methyl-7-oxabicyclo[2.2.1]heptan-2-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

(S)-7-(4-methoxybenzyl)-6-methyl-3-(1-phenylethyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

(*R*)-7-(4-methoxybenzyl)-6-methyl-3-(1-phenylethyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(1,4-dimethylpiperidin-4-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(6-chloro-2,3-dihydro-1*H*-inden-1-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-(3-methyl-5-oxopyrrolidin-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(1-methoxy-2-methylpropan-2-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

3-isopropyl-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-7-((2-methylthiazol-4-yl)methyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)-7-(thiophen-3-ylmethyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)-7-(thiazol-4-ylmethyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-((3,5-dimethylisoxazol-4-yl)methyl)-6-methyl-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-7-((5-methylisoxazol-3-yl)methyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

6-methyl-7-((3-methylisoxazol-5-yl)methyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(2,6-dimethyltetrahydro-2*H*-pyran-4-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(cyclohexylmethyl)-6-methyl-3-propylimidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(2-hydroxypropan-2-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(2-fluoropropan-2-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-(7-oxoazepan-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-(5-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-(1-(4-methylthiazol-2-yl)ethyl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(7-(4-methoxybenzyl)-6-methyl-8-oxo-7,8-dihydroimidazo[1,5-a]pyrazin-3-yl)-3-methylpyrrolidine-1-sulfonamide;

6-(cyclopentylmethyl)-7-(4-methoxybenzyl)-3-(tetrahydro-2*H*-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(morpholino)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-((tetrahydrofuran-3-yl)amino)imidazo[1,5-a]pyrazin-8(7*H*)-one;

(*R*)-7-(4-methoxybenzyl)-6-methyl-3-(3-methylmorpholino)imidazo[1,5-a]pyrazin-8(7*H*)-one;

(S)-7-(4-methoxybenzyl)-6-methyl-3-(3-methylmorpholino)imidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(4-methoxybenzyl)-6-methyl-3-(1,4-oxazepan-4-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

3-(2,2-dimethylmorpholino)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-fluorobenzyl)-3-((3a*S*,6a*S*)-hexahydro-4*H*-furo[3,2-b]pyrrol-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

7-(3-fluorobenzyl)-3-((3a*R*,6a*R*)-hexahydro-4*H*-furo[3,2-b]pyrrol-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7*H*)-one;

(*R*)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one*;*

(*S*)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2*H*-pyran-3-yl)imidazo[1,5-a]pyrazin-8(7*H*)-one;

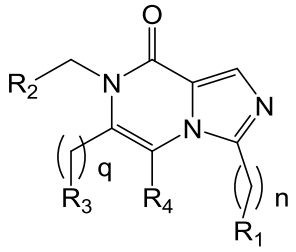
or a pharmaceutically acceptable salt of any of these compounds.

4. The use according to any of claims 1-3, wherein said neurodegenerative and/or cognitive disorder is selected from the group comprising Alzheimer’s Disease, Parkinson’s Disease and Huntington’s Disease.

5. The use according to claim 4, wherein said neurodegenerative and/or cognitive disorder is Alzheimer’s Disease.

6. A pharmaceutical composition comprising:

1) a compound of Formula (I)



(I)

wherein

n is 0 or 1;

q is 0 or 1;

R1 is selected from the group consisting of benzyl, indanyl, indoline and 5-membered heteroaryls; all of which can be substituted with a substituent selected from the group consisting of halogen and C_1-C_3 alkyl; or

R1 is selected from the group consisting of saturated monocyclic rings containing 4-6 carbon atoms and 1-2 nitrogen atoms; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl, fluorine and sulfonamide; or

R1 is selected from the group consisting of lactams containing 4-6 carbon atoms; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl and fluorine; or

R1 is selected from the group consisting of bicyclic ethers such as, 7-oxabicyclo[2.2.1]heptane; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl and fluorine; or

R1 is selected from the group consisting of linear or branched C_1-C_8 alkyl, saturated monocyclic C_3-C_8 cycloalkyl, oxetanyl, tetrahydrofuranyl and tetrahydropyranyl; all of which can be substituted one or more times with one or more substituents selected from the group consisting of methyl, fluorine, hydroxy, cyano or methoxy; or

R1 is a linear or branched C_1-C_3 alkyl, which is substituted with a substituent selected from phenyl and 5-membered heteroaryl, wherein said 5-membered heteroaryl can be substituted with one or more C_1-C_3 alkyls; or

R1 is selected from the group consisting of morpholine, tetrahydrofuran-3-amine, hexahydro-2H-furo[3,2-b]pyrrole and homomorpholine; all of which can be subsituted with one or more substituents selected from the group consisting of C_1-C_3 alkyl;

R2 is selected from the group consisting of hydrogen, linear or branched C_1-C_8 alkyl, phenyl, saturated monocyclic C_3-C_8 cycloalkyl, oxetanyl, benzo[d][1,3]dioxolyl, tetrahydrofuranyl and tetrahydropyranyl; or

R2 is phenyl or pyridyl substituted with one or more substituents selected from the group consisting of hydroxyl, amino, cyano, halogen, C_1-C_3 alkyl, C_1-C_3 alkoxy, C_3-C_5 cycloalkoxy, C_3-C_5 cycloalkyl-methoxy, C_1-C_3 fluoroalkoxy, and -NHC(O)CH_3; or

R2 is a 5-membered heteroaryl which can be substituted with one or more C_1-C_3 alkyl;

R3 is selected from the group consisting of hydrogen, halogen, C_1-C_5 alkyl, C_3-C_5 cycloalkyl and phenyl; or

R3 is selected from the group consisting of phenyl substituted one or more times with C_1-C_3 alkyl; methyl substituted one, two or three times with fluorine; ethyl substituted one, two or three times with fluorine;

R4 is hydrogen;

and tautomers and pharmaceutically acceptable addition salts thereof;

with the proviso that R2 and R3 cannot be hydrogen at the same time; and

2) a compound useful in active or passive Tau immunotherapy selected from: an antibody or a fragment thereof directed against phosphorylated Tau protein, an antibody or a fragment thereof directed against hyperphosphorylated Tau protein, or a fragment of the Tau protein amino acid sequence , a compound useful in active or passive Aβ peptide immunotherapy selected from an anti-Aβ peptide antibody or a fragment thereof, or a fragment of the Aβ peptide amino acid sequence, an NMDA receptor antagonist, an acetylcholine esterase inhibitor, a BACE inhibitor, a 5-HT6 receptor antagonist, an antiepileptic, an anti-inflammatory drug or an anti-N3-pGlu Abeta monoclonal antibody; and

one or more pharmaceutically acceptable carriers, diluents and excipients.

7. The pharmaceutical composition according to claim 6, wherein

R1 is selected from the group consisting of linear or branched C_1-C_8 alkyl, saturated monocyclic C_3-C_8 cycloalkyl, oxetanyl, tetrahydrofuranyl, and tetrahydropyranyl;

R2 is selected from the group consisting of, linear or branched C_1-C_8 alkyl, phenyl, and saturated monocyclic C_3-C_8 cycloalkyl; or

R2 is selected from the group consisting of phenyl substituted with a substituent selected from the group consisting of halogen, C_1-C_3 alkyl and methoxy;

R3 is selected from the group consisting of hydrogen, C_1-C_3 alkyl and halogen;

R4 is hydrogen.

8. The pharmaceutical composition according to claim 6, wherein the compound of formula (I) is selected from the group consisting of:

7-(3-Fluorobenzyl)-3-propylimidazo[1,5-a]pyrazin-8(7H)-one;

6-Benzyl-7-(3-fluorobenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-Benzyl-7-(cyclohexylmethyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cyclohexylmethyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-Fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-Cyclopropyl-7-(3-fluorobenzyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cyclopentylmethyl)-3-cyclopropylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cyclohexylmethyl)-3-cyclopropylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-Fluorobenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cyclopentylmethyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cyclohexylmethyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cycloheptylmethyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(Cycloheptylmethyl)-3-cyclopropylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-Chlorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-Bromo-7-(3-fluorobenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-Benzyl-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(2-Fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-Chlorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(2-Chlorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-Methoxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-Methyl-7-(2-methylbenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-Methyl-7-(4-methylbenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-Methoxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-Fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-Methyl-7-(3-methylbenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-(4-methyltetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

4-(7-(3-fluorobenzyl)-6-methyl-8-oxo-7,8-dihydroimidazo[1,5-a]pyrazin-3-yl)tetrahydro-2H-pyran-4-carbonitrile;

7-(3-fluorobenzyl)-3-(4-methoxytetrahydro-2H-pyran-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-(4-fluorotetrahydro-2H-pyran-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

(R)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-2-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(S)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-2-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(R)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(S)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(R)-7-(3-fluorobenzyl)-6-methyl-3-(3-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(S)-7-(3-fluorobenzyl)-6-methyl-3-(3-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-(1-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7H)-one ;

3-(2,2-difluorocyclopropyl)-7-(3-fluorobenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((1R,2S)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((1R,2R)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((1S,2S)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((1S,2R)-2-methylcyclopropyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((2S,3R)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((2S,3S)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((2R,3R)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-6-methyl-3-((2R,3S)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-((1R,2S)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-((1R,2R)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-((1S,2S)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-((1S,2R)-2-fluorocyclopropyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-cyclopropoxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-(difluoromethoxy)benzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-3-(tetrahydro-2H-pyran-4-yl)-7-(4-(trifluoromethoxy)benzyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-(cyclopropylmethoxy)benzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-benzyl-6-ethyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-ethyl-7-(4-methoxybenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-((6-methyl-8-oxo-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)benzonitrile;

4-((6-methyl-8-oxo-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)benzonitrile;

N-(4-((6-methyl-8-oxo-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)phenyl)acetamide;

7-(4-chloro-3-methoxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(2-ethylbenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(benzo[d][1,3]dioxol-5-ylmethyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-chloro-4-methoxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-aminobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-hydroxybenzyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-ethyl-7-(3-fluorobenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-((2S,3R)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-((2S,3S)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-((2R,3R)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-((2R,3S)-2-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-propylimidazo[1,5-a]pyrazin-8(7H)-one;

7-((6-methoxypyridin-3-yl)methyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-ethyl-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-7-propyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-isopropyl-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-isopentyl-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(cyclopentylmethyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

2-((6-methyl-8-oxo-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-7(8H)-yl)methyl)benzonitrile;

7-(cycloheptylmethyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-(3-methyltetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-((1R,2R,4S)-2-methyl-7-oxabicyclo[2.2.1]heptan-2-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(S)-7-(4-methoxybenzyl)-6-methyl-3-(1-phenylethyl)imidazo[1,5-a]pyrazin-8(7H)-one;

(R)-7-(4-methoxybenzyl)-6-methyl-3-(1-phenylethyl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-(1,4-dimethylpiperidin-4-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

3-(6-chloro-2,3-dihydro-1H-inden-1-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-(3-methyl-5-oxopyrrolidin-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-(1-methoxy-2-methylpropan-2-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

3-isopropyl-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-7-((2-methylthiazol-4-yl)methyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-3-(tetrahydro-2H-pyran-4-yl)-7-(thiophen-3-ylmethyl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-3-(tetrahydro-2H-pyran-4-yl)-7-(thiazol-4-ylmethyl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-((3,5-dimethylisoxazol-4-yl)methyl)-6-methyl-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-7-((5-methylisoxazol-3-yl)methyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

6-methyl-7-((3-methylisoxazol-5-yl)methyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-(2,6-dimethyltetrahydro-2H-pyran-4-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(cyclohexylmethyl)-6-methyl-3-propylimidazo[1,5-a]pyrazin-8(7H)-one;

3-(2-hydroxypropan-2-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

3-(2-fluoropropan-2-yl)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-(7-oxoazepan-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-(5-methyltetrahydrofuran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-(1-(4-methylthiazol-2-yl)ethyl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-(7-(4-methoxybenzyl)-6-methyl-8-oxo-7,8-dihydroimidazo[1,5-a]pyrazin-3-yl)-3-methylpyrrolidine-1-sulfonamide;

6-(cyclopentylmethyl)-7-(4-methoxybenzyl)-3-(tetrahydro-2H-pyran-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-(morpholino)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-((tetrahydrofuran-3-yl)amino)imidazo[1,5-a]pyrazin-8(7H)-one;

(R)-7-(4-methoxybenzyl)-6-methyl-3-(3-methylmorpholino)imidazo[1,5-a]pyrazin-8(7H)-one;

(S)-7-(4-methoxybenzyl)-6-methyl-3-(3-methylmorpholino)imidazo[1,5-a]pyrazin-8(7H)-one;

7-(4-methoxybenzyl)-6-methyl-3-(1,4-oxazepan-4-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

3-(2,2-dimethylmorpholino)-7-(4-methoxybenzyl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-((3aS,6aS)-hexahydro-4H-furo[3,2-b]pyrrol-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

7-(3-fluorobenzyl)-3-((3aR,6aR)-hexahydro-4H-furo[3,2-b]pyrrol-4-yl)-6-methylimidazo[1,5-a]pyrazin-8(7H)-one;

(R)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

(S)-7-(3-fluorobenzyl)-6-methyl-3-(tetrahydro-2H-pyran-3-yl)imidazo[1,5-a]pyrazin-8(7H)-one;

or a pharmaceutically acceptable salt of any of these compounds.

9. The pharmaceutical composition according to any of claims 6-8, comprising the compound of formula (I) and any of the compounds listed under item 2) in claim 1,

in therapeutically effective amounts.

10. The pharmaceutical composition according to any of claims 6-9 for use in the treatment of a neurodegenerative and/or cognitive disorder.

11. The pharmaceutical composition for use according to claim 10, wherein said neurodegenerative and/or cognitive disorder is selected from the group consisting of Alzheimer's Disease, Parkinson's Disease and Huntington's Disease.

12. The pharmaceutical composition for use according to claim 11, wherein said neurodegenerative and/or cognitive disorder is Alzheimer's Disease.