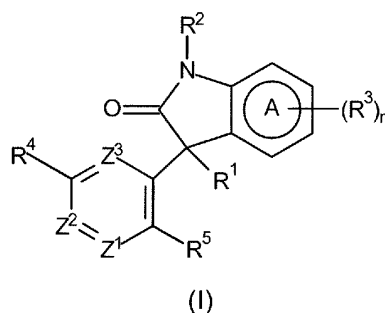


New PCT patent application
 Kaerus Bioscience Ltd.
 Vossius Ref.: AC1958 PCT

CLAIMS

1. A compound of formula (I)



wherein:

R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-CN, -(C₁₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-COO-(C₁₋₅ alkyl), -(C₁₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH₂, -(C₀₋₄ alkylene)-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-aryl, and -(C₀₋₄ alkylene)-heteroaryl, wherein the aryl moiety in said -(C₀₋₄ alkylene)-aryl and the heteroaryl moiety in said -(C₀₋₄ alkylene)-heteroaryl are each optionally substituted with one or more groups R^{Cyc}, and R⁵ is a group R^{5A};

or alternatively, R¹ and R⁵ are mutually joined to form a C₂₋₃ alkylene or a C₂₋₃ alkenylene, wherein one or two -CH₂- units in said C₂₋₃ alkylene or said C₂₋₃ alkenylene are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-;

R² is hydrogen;

ring A is phenyl or a 5- or 6-membered monocyclic heteroaryl, wherein said phenyl or said heteroaryl is fused to the ring containing -CO-NR²-;

each R^3 is independently selected from C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4}$ alkylene)-OH, $-(C_{0-4}$ alkylene)-O(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-O(C_{1-5} alkylene)-OH, $-(C_{0-4}$ alkylene)-O(C_{1-5} alkylene)-O(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-SH, $-(C_{0-4}$ alkylene)-S(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH₂, $-(C_{0-4}$ alkylene)-NH(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH-OH, $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-OH, $-(C_{0-4}$ alkylene)-NH-O(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-O(C_{1-5} alkyl), halogen, C_{1-5} haloalkyl, $-(C_{0-4}$ alkylene)-O-(C_{1-5} haloalkyl), $-(C_{0-4}$ alkylene)-CN, $-(C_{0-4}$ alkylene)-CHO, $-(C_{0-4}$ alkylene)-CO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-COOH, $-(C_{0-4}$ alkylene)-CO-O-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-O-CO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-CO-NH₂, $-(C_{0-4}$ alkylene)-CO-NH(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-CO-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH-CO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-CO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH-CO-O-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-CO-O-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-O-CO-NH-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-O-CO-N(C_{1-5} alkyl)-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-SO₂-NH₂, $-(C_{0-4}$ alkylene)-SO₂-NH(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-SO₂-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH-SO₂-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-SO₂-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-SO₂-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-SO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-cycloalkyl and $-(C_{0-4}$ alkylene)-heterocycloalkyl, wherein the cycloalkyl moiety in said $-(C_{0-4}$ alkylene)-cycloalkyl and the heterocycloalkyl moiety in said $-(C_{0-4}$ alkylene)-heterocycloalkyl are each optionally substituted with one or more groups R^{Cyc} ;

n is an integer of 0 to 4;

Z^1 , Z^2 and Z^3 are each independently C($-R^6$) or N;

R^4 is selected from hydrogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4}$ alkylene)-OH, $-(C_{0-4}$ alkylene)-O(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-O(C_{1-5} alkylene)-OH, $-(C_{0-4}$ alkylene)-O(C_{1-5} alkylene)-O(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-SH, $-(C_{0-4}$ alkylene)-S(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH₂, $-(C_{0-4}$ alkylene)-NH(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH-OH, $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-OH, $-(C_{0-4}$ alkylene)-NH-O(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-N(C_{1-5} alkyl)-O(C_{1-5} alkyl), halogen, C_{1-5} haloalkyl, $-(C_{0-4}$ alkylene)-O-(C_{1-5} haloalkyl), $-(C_{0-4}$ alkylene)-CN, $-(C_{0-4}$ alkylene)-CHO, $-(C_{0-4}$ alkylene)-CO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-COOH, $-(C_{0-4}$ alkylene)-CO-O-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-O-CO-(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-CO-NH₂, $-(C_{0-4}$ alkylene)-CO-NH(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-CO-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4}$ alkylene)-NH-CO-(C_{1-5} alkyl), $-(C_{0-4}$

alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-NH-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-N(C₁₋₅ alkyl)-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-NH₂, -(C₀₋₄ alkylene)-SO₂-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-carbocyclyl, and -(C₀₋₄ alkylene)-heterocyclyl, wherein the carbocyclyl moiety in said -(C₀₋₄ alkylene)-carbocyclyl and the heterocyclyl moiety in said -(C₀₋₄ alkylene)-heterocyclyl are each optionally substituted with one or more groups R^{Cyc};

R^{5A} is selected from hydrogen, C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SH, -(C₀₋₄ alkylene)-S(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH₂, -(C₀₋₄ alkylene)-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-OH, -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-OH, -(C₀₋₄ alkylene)-NH-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-O(C₁₋₅ alkyl), halogen, C₁₋₅ haloalkyl, -(C₀₋₄ alkylene)-O-(C₁₋₅ haloalkyl), -(C₀₋₄ alkylene)-CN, -(C₀₋₄ alkylene)-CHO, -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-NH-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-N(C₁₋₅ alkyl)-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-NH₂, -(C₀₋₄ alkylene)-SO₂-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-carbocyclyl, and -(C₀₋₄ alkylene)-heterocyclyl, wherein the carbocyclyl moiety in said -(C₀₋₄ alkylene)-carbocyclyl and the heterocyclyl moiety in said -(C₀₋₄ alkylene)-heterocyclyl are each optionally substituted with one or more groups R^{Cyc};

each R⁶ is independently selected from hydrogen, C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SH, -(C₀₋₄ alkylene)-S(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH₂, -(C₀₋₄ alkylene)-NH(C₁₋₅ alkyl),

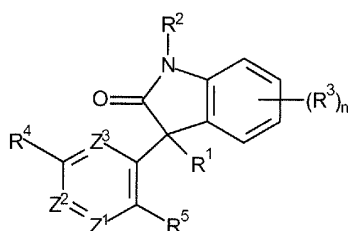
$-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-OH$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-OH$, $-(C_{0-4} \text{ alkylene})-NH-O(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-O(C_{1-5} \text{ alkyl})$, halogen, C_{1-5} haloalkyl, $-(C_{0-4} \text{ alkylene})-O(C_{1-5} \text{ haloalkyl})$, $-(C_{0-4} \text{ alkylene})-CN$, $-(C_{0-4} \text{ alkylene})-CHO$, $-(C_{0-4} \text{ alkylene})-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-COOH$, $-(C_{0-4} \text{ alkylene})-CO-O-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-CO-NH_2$, $-(C_{0-4} \text{ alkylene})-CO-NH(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-CO-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-CO-O-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-CO-O-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O-CO-NH-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O-CO-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO_2-NH_2$, $-(C_{0-4} \text{ alkylene})-SO_2-NH(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO_2-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-SO_2-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-SO_2-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO_2-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})$ -carbocyclyl, and $-(C_{0-4} \text{ alkylene})$ -heterocyclyl, wherein the carbocyclyl moiety in said $-(C_{0-4} \text{ alkylene})$ -carbocyclyl and the heterocyclyl moiety in said $-(C_{0-4} \text{ alkylene})$ -heterocyclyl are each optionally substituted with one or more groups R^{Cyc} ; and

each R^{Cyc} is independently selected from C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4} \text{ alkylene})-OH$, $-(C_{0-4} \text{ alkylene})-O(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O(C_{1-5} \text{ alkylene})-OH$, $-(C_{0-4} \text{ alkylene})-O(C_{1-5} \text{ alkylene})-O(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SH$, $-(C_{0-4} \text{ alkylene})-S(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH_2$, $-(C_{0-4} \text{ alkylene})-NH(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-OH$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-OH$, $-(C_{0-4} \text{ alkylene})-NH-O(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-O(C_{1-5} \text{ alkyl})$, halogen, C_{1-5} haloalkyl, $-(C_{0-4} \text{ alkylene})-O-(C_{1-5} \text{ haloalkyl})$, $-(C_{0-4} \text{ alkylene})-CN$, $-(C_{0-4} \text{ alkylene})-CHO$, $-(C_{0-4} \text{ alkylene})-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-COOH$, $-(C_{0-4} \text{ alkylene})-CO-O-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-CO-NH_2$, $-(C_{0-4} \text{ alkylene})-CO-NH(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-CO-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-CO-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-CO-O-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-CO-O-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O-CO-NH-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-O-CO-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO_2-NH_2$, $-(C_{0-4} \text{ alkylene})-SO_2-NH(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO_2-N(C_{1-5} \text{ alkyl})(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-NH-SO_2-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-N(C_{1-5} \text{ alkyl})-SO_2-(C_{1-5} \text{ alkyl})$, $-(C_{0-4} \text{ alkylene})-SO_2-(C_{1-5} \text{ alkyl})$, and $-(C_{0-4} \text{ alkylene})-SO-(C_{1-5} \text{ alkyl})$;

or a pharmaceutically acceptable salt or solvate thereof;

for use in the treatment or prevention of a fragile X associated disorder.

2. The compound for use according to claim 1, wherein R^1 is C_{1-5} alkyl and R^5 is R^{5A} , or alternatively R^1 and R^5 are mutually joined to form a group $-CH_2CH_2-$, $-O-CH_2-$, $-CH_2-O-$, $-CO-O-$ or $-O-CO-$; preferably wherein R^1 is methyl.
3. The compound for use according to claim 1 or 2, wherein R^5 is $-O(C_{1-5} \text{ alkyl})$ or $-OH$, preferably wherein R^5 is $-OCH_3$.
4. The compound for use according to any one of claims 1 to 3, wherein ring A is selected from phenyl, pyridinyl, oxazolyl, and isoxazolyl, wherein said phenyl, said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing $-CO-NR^2-$; preferably wherein ring A is phenyl which is fused to the ring containing $-CO-NR^2-$, such that the compound of formula (I) has the following structure:



5. The compound for use according to any one of claims 1 to 4, wherein each R^3 is independently selected from C_{1-5} alkyl, $-O(C_{1-5} \text{ alkyl})$, halogen, C_{1-5} haloalkyl, and $-CN$.
6. The compound for use according to any one of claims 1 to 5, wherein Z^1 , Z^2 and Z^3 are each $C(-R^6)$.
7. The compound for use according to any one of claims 1 to 6, wherein R^4 is halogen, $-CF_3$, or $-CN$, preferably wherein R^4 is $-Cl$.
8. The compound for use according to any one of claims 1 to 7, wherein each R^6 is independently selected from hydrogen, C_{1-5} alkyl, $-O(C_{1-5} \text{ alkyl})$, halogen, C_{1-5} haloalkyl, $-O-(C_{1-5} \text{ haloalkyl})$, and $-CN$, preferably wherein each R^6 is hydrogen.
9. The compound for use according to claim 1, wherein:

- ring A is selected from phenyl, pyridinyl, oxazolyl, and isoxazolyl, wherein said phenyl, said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing -CO-NR²;
- one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);
- R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-CN, -(C₁₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-COO-(C₁₋₅ alkyl), -(C₁₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), and -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), and R⁵ is a group R^{5A};
or alternatively, R¹ and R⁵ are mutually joined to form a C₂₋₃ alkylene or a C₂₋₃ alkenylene, wherein one or two -CH₂- units in said C₂₋₃ alkylene or said C₂₋₃ alkenylene are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and
- each R³ is independently selected from C₁₋₅ alkyl, -O(C₁₋₅ alkyl), halogen, C₁₋₅ haloalkyl, and -CN.

10. The compound for use according to claim 1, wherein:

- ring A is selected from phenyl, pyridinyl, oxazolyl, and isoxazolyl, wherein said phenyl, said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing -CO-NR²;
- one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);
- R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-CN, -(C₁₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-COO-(C₁₋₅ alkyl), -(C₁₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), and -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), and R⁵ is a group R^{5A};
or alternatively, R¹ and R⁵ are mutually joined to form a C₂₋₃ alkylene or a C₂₋₃ alkenylene, wherein one or two -CH₂- units in said C₂₋₃ alkylene or said C₂₋₃ alkenylene are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and
- each R³ is independently halogen or C₁₋₅ haloalkyl.

11. The compound for use according to claim 1, wherein:

- ring A is selected from phenyl, pyridinyl, oxazolyl, and isoxazolyl, wherein said phenyl, said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing -CO-NR²-;
 - Z¹ and Z³ are each C(-R⁶);
 - Z² is C(-R⁶) or N;
 - R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, -(C₀₋₄ alkylene)-CN, and -(C₁₋₄ alkylene)-COOH, and R⁵ is a group R^{5A};
or alternatively, R¹ and R⁵ are mutually joined to form a group -CH₂CH₂- or -CH₂CH₂CH₂-, wherein one or two -CH₂- units in said -CH₂CH₂- or -CH₂CH₂CH₂- are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
12. The compound for use according to claim 1, wherein:
- ring A is phenyl or pyridinyl, wherein said phenyl or said pyridinyl is fused to the ring containing -CO-NR²-;
 - Z¹, Z² and Z³ are each C(-R⁶);
 - R¹ is C₁₋₅ alkyl and R⁵ is a group R^{5A}, or alternatively R¹ and R⁵ are mutually joined to form a group -CH₂CH₂-, -O-CH₂-, -CH₂-O-, -CO-O- or -O-CO-; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
13. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);
 - R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-CN, -(C₁₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-COO-(C₁₋₅ alkyl), -(C₁₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), and -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), and R⁵ is a group R^{5A}; and
 - each R³ is independently selected from C₁₋₅ alkyl, -O(C₁₋₅ alkyl), halogen, C₁₋₅ haloalkyl, and -CN.
14. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);

- R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-CN, -(C₁₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-COO-(C₁₋₅ alkyl), -(C₁₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), and -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), and R⁵ is a group R^{5A}; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
15. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - Z¹ and Z³ are each C(-R⁶);
 - Z² is C(-R⁶) or N;
 - R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, -(C₀₋₄ alkylene)-CN, and -(C₁₋₄ alkylene)-COOH, and R⁵ is a group R^{5A}; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
16. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - Z¹, Z² and Z³ are each C(-R⁶);
 - R¹ is C₁₋₅ alkyl, and R⁵ is a group R^{5A}; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
17. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);
 - R¹ and R⁵ are mutually joined to form a C₂₋₃ alkylene or a C₂₋₃ alkenylene, wherein one or two -CH₂- units in said C₂₋₃ alkylene or said C₂₋₃ alkenylene are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and
 - each R³ is independently selected from C₁₋₅ alkyl, -O(C₁₋₅ alkyl), halogen, C₁₋₅ haloalkyl, and -CN.
18. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);

- R¹ and R⁵ are mutually joined to form a C₂₋₃ alkylene or a C₂₋₃ alkenylene, wherein one or two -CH₂- units in said C₂₋₃ alkylene or said C₂₋₃ alkenylene are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
19. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - Z¹ and Z³ are each C(-R⁶);
 - Z² is C(-R⁶) or N;
 - R¹ and R⁵ are mutually joined to form a group -CH₂CH₂- or -CH₂CH₂CH₂-, wherein one or two -CH₂- units in said -CH₂CH₂- or -CH₂CH₂CH₂- are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
20. The compound for use according to claim 1, wherein:
- ring A is phenyl which is fused to the ring containing -CO-NR²-;
 - Z¹, Z² and Z³ are each C(-R⁶);
 - R¹ and R⁵ are mutually joined to form a group -CH₂CH₂-, -O-CH₂-, -CH₂-O-, -CO-O- or -O-CO-; and
 - each R³ is independently halogen or C₁₋₅ haloalkyl.
21. The compound for use according to claim 1, wherein:
- ring A is selected from pyridinyl, oxazolyl, and isoxazolyl, wherein said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing -CO-NR²-;
 - one of the ring atoms Z¹, Z² and Z³ is C(-R⁶) or N, and the other two ring atoms are each C(-R⁶);
 - R¹ is selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-CN, -(C₁₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-COO-(C₁₋₅ alkyl), -(C₁₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), and -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), and R⁵ is a group R^{5A};
- or alternatively, R¹ and R⁵ are mutually joined to form a C₂₋₃ alkylene or a C₂₋₃ alkenylene, wherein one or two -CH₂- units in said C₂₋₃ alkylene or said C₂₋₃ alkenylene are each optionally replaced by a group independently selected from -O-, -NH-, -N(C₁₋₅ alkyl)-, and -CO-; and

- each R^3 is independently selected from C_{1-5} alkyl, $-O(C_{1-5}$ alkyl), halogen, C_{1-5} haloalkyl, and $-CN$.
22. The compound for use according to claim 1, wherein:
- ring A is selected from pyridinyl, oxazolyl, and isoxazolyl, wherein said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing $-CO-NR^2-$;
 - one of the ring atoms Z^1 , Z^2 and Z^3 is $C(-R^6)$ or N, and the other two ring atoms are each $C(-R^6)$;
 - R^1 is selected from C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4}$ alkylene)-CN, $-(C_{1-4}$ alkylene)-COOH, $-(C_{0-4}$ alkylene)-COO- $(C_{1-5}$ alkyl), $-(C_{1-4}$ alkylene)-O-CO- $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-CO- $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-CO-NH₂, $-(C_{0-4}$ alkylene)-CO-NH $(C_{1-5}$ alkyl), and $-(C_{0-4}$ alkylene)-CO-N $(C_{1-5}$ alkyl) $(C_{1-5}$ alkyl), and R^5 is a group R^{5A} ;
or alternatively, R^1 and R^5 are mutually joined to form a C_{2-3} alkylene or a C_{2-3} alkenylene, wherein one or two $-CH_2-$ units in said C_{2-3} alkylene or said C_{2-3} alkenylene are each optionally replaced by a group independently selected from $-O-$, $-NH-$, $-N(C_{1-5}$ alkyl)-, and $-CO-$; and
 - each R^3 is independently halogen or C_{1-5} haloalkyl.
23. The compound for use according to claim 1, wherein:
- ring A is selected from pyridinyl, oxazolyl, and isoxazolyl, wherein said pyridinyl, said oxazolyl or said isoxazolyl is fused to the ring containing $-CO-NR^2-$;
 - Z^1 and Z^3 are each $C(-R^6)$;
 - Z^2 is $C(-R^6)$ or N;
 - R^1 is selected from C_{1-5} alkyl, C_{2-5} alkenyl, $-(C_{0-4}$ alkylene)-CN, and $-(C_{1-4}$ alkylene)-COOH, and R^5 is a group R^{5A} ;
or alternatively, R^1 and R^5 are mutually joined to form a group $-CH_2CH_2-$ or $-CH_2CH_2CH_2-$, wherein one or two $-CH_2-$ units in said $-CH_2CH_2-$ or $-CH_2CH_2CH_2-$ are each optionally replaced by a group independently selected from $-O-$, $-NH-$, $-N(C_{1-5}$ alkyl)-, and $-CO-$; and
 - each R^3 is independently halogen or C_{1-5} haloalkyl.
24. The compound for use according to claim 1, wherein:
- ring A is pyridinyl which is fused to the ring containing $-CO-NR^2-$;
 - Z^1 , Z^2 and Z^3 are each $C(-R^6)$;
 - R^1 is C_{1-5} alkyl and R^5 is a group R^{5A} , or alternatively R^1 and R^5 are mutually joined to form a group $-CH_2CH_2-$, $-O-CH_2-$, $-CH_2-O-$, $-CO-O-$ or $-O-CO-$; and

- each R³ is independently halogen or C₁₋₅ haloalkyl.

25. The compound for use according to claim 1, wherein said compound is selected from:
- 3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-hydroxy-phenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-methoxyphenyl)-3-ethyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-methoxyphenyl)-3-propyl-6-(trifluoromethyl)indolin-2-one;
 - 3-benzyl-3-(5-chloro-2-methoxyphenyl)-6-(trifluoromethyl)indolin-2-one;
 - 2-(3-(5-chloro-2-methoxyphenyl)-2-oxo-6-(trifluoromethyl)indolin-3-yl)acetonitrile;
 - 3-allyl-3-(5-chloro-2-methoxyphenyl)-6-(trifluoromethyl)indolin-2-one;
 - 2-(3-(5-chloro-2-methoxyphenyl)-2-oxo-6-(trifluoromethyl)indolin-3-yl)acetic acid;
 - 5-chloro-6'-(trifluoromethyl)-2H-spiro[benzofuran-3,3'-indolin]-2'-one;
 - 7-methoxy-6'-(trifluoromethyl)-2,3-dihydrospiro[indene-1,3'-indolin]-2'-one;
 - 4-chloro-7-methoxy-6'-(trifluoromethyl)spiro[indane-1,3'-indoline]-2'-one;
 - 4,6-dichloro-7-methoxy-6'-(trifluoromethyl)spiro[indane-1,3'-indoline]-2'-one;
 - 3-(2-chloro-5-methoxy-4-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(3-methoxy-4-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-methyl-3-(4-pyridyl)-6-(trifluoromethyl)indolin-2-one;
 - 3-(2-chloro-4-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-[2-methoxy-5-(1-methylimidazol-2-yl)phenyl]-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-methoxy-phenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-b]pyridin-2-one;
 - 6'-chloro-6-(trifluoromethyl)-3'H-spiro[indoline-3,1'-isobenzofuran]-2,3'-dione;
 - 3-(5-chloro-2-methoxy-phenyl)-6-(difluoromethyl)-3-methyl-indolin-2-one;
 - 3-(5-chloro-2-methoxy-3-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methylindolin-2-one;
 - 6-chloro-3-(2-chloro-5-methoxypyridin-4-yl)-3-methylindolin-2-one;
 - 3-(6-chloro-3-methoxypyridin-2-yl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methyl-1H-pyrrolo[3,2-c]pyridin-2(3H)-one;
 - 6-chloro-3-(5-chloro-2-methoxypyridin-3-yl)-3-methylindolin-2-one;
 - 6-chloro-3-(2-methoxy-5-(1-methyl-1H-imidazol-2-yl)phenyl)-3-methylindolin-2-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methyl-1H-pyrrolo[3,2-b]pyridin-2(3H)-one;
 - 6-chloro-3-(6-chloro-3-methoxypyridin-2-yl)-3-methylindolin-2-one;
 - 6-chloro-3-(2-methoxy-5-(1-methyl-1H-imidazol-2-yl)pyridin-3-yl)-3-methylindolin-2-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methyl-1H-pyrrolo[2,3-b]pyridin-2(3H)-one;

3-(5-chloro-2-methoxypyridin-3-yl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-c]pyridin-2(3H)-one;

6-chloro-3-(5-methoxy-2-(1-methyl-1H-imidazol-2-yl)pyridin-4-yl)-3-methylindolin-2-one;

3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[2,3-b]pyridin-2(3H)-one;

3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-c]pyridin-2(3H)-one;

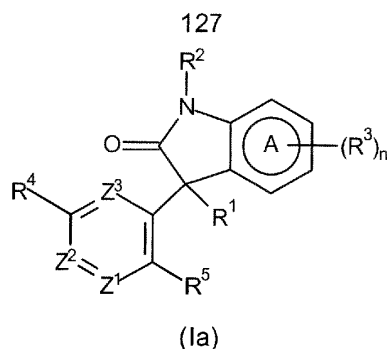
3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-b]pyridin-2(3H)-one;

6-(5-chloro-2-methoxyphenyl)-6-methyl-3-(trifluoromethyl)-4H-pyrrolo[2,3-d]isoxazol-5(6H)-one;

6-(5-chloro-2-methoxyphenyl)-6-methyl-2-(trifluoromethyl)-4H-pyrrolo[3,2-d]oxazol-5(6H)-one;

or a pharmaceutically acceptable salt or solvate thereof.

26. The compound for use according to claim 1, wherein said compound is 3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one or a pharmaceutically acceptable salt or solvate thereof.
27. The compound for use according to claim 1, wherein said compound is (3R)-3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one or a pharmaceutically acceptable salt or solvate thereof.
28. The compound for use according to any one of claims 1 to 27, wherein the fragile X associated disorder is selected from fragile X syndrome, fragile X-associated tremor/ataxia syndrome, fragile X-associated primary ovarian insufficiency, fragile X-associated polycystic ovarian syndrome, and fragile XE-associated mental retardation; preferably wherein the fragile X associated disorder is fragile X syndrome.
29. *In vitro* use of a compound as defined in any one of claims 1 to 27 as a maxi-K potassium channel opener.
30. A compound of formula (Ia)



wherein:

R^1 is selected from C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4}$ alkylene)-CN, $-(C_{1-4}$ alkylene)-COOH, $-(C_{0-4}$ alkylene)-COO- $(C_{1-5}$ alkyl), $-(C_{1-4}$ alkylene)-O-CO- $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-CO- $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-CO-NH₂, $-(C_{0-4}$ alkylene)-CO-NH $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-CO-N $(C_{1-5}$ alkyl) $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-NH-CO- $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-N $(C_{1-5}$ alkyl)-CO- $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-NH₂, $-(C_{0-4}$ alkylene)-NH $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-N $(C_{1-5}$ alkyl) $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-aryl, and $-(C_{0-4}$ alkylene)-heteroaryl, wherein the aryl moiety in said $-(C_{0-4}$ alkylene)-aryl and the heteroaryl moiety in said $-(C_{0-4}$ alkylene)-heteroaryl are each optionally substituted with one or more groups R^{Cyc} , and R^5 is a group R^{5A} ;

or alternatively, R^1 and R^5 are mutually joined to form a C_{2-3} alkylene or a C_{2-3} alkenylene, wherein one or two $-CH_2-$ units in said C_{2-3} alkylene or said C_{2-3} alkenylene are each optionally replaced by a group independently selected from $-O-$, $-NH-$, $-N(C_{1-5}$ alkyl)-, and $-CO-$;

R^2 is hydrogen;

ring A is phenyl or a 5- or 6-membered monocyclic heteroaryl, wherein said phenyl or said heteroaryl is fused to the ring containing $-CO-NR^2-$;

each R^3 is independently selected from C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4}$ alkylene)-OH, $-(C_{0-4}$ alkylene)-O $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-O $(C_{1-5}$ alkylene)-OH, $-(C_{0-4}$ alkylene)-O $(C_{1-5}$ alkylene)-O $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-SH, $-(C_{0-4}$ alkylene)-S $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-NH₂, $-(C_{0-4}$ alkylene)-NH $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-N $(C_{1-5}$ alkyl) $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-NH-OH, $-(C_{0-4}$ alkylene)-N $(C_{1-5}$ alkyl)-OH, $-(C_{0-4}$ alkylene)-NH-O $(C_{1-5}$ alkyl), $-(C_{0-4}$ alkylene)-N $(C_{1-5}$ alkyl)-O $(C_{1-5}$ alkyl), halogen, C_{1-5} haloalkyl, $-(C_{0-4}$ alkylene)-O- $(C_{1-5}$ haloalkyl), $-(C_{0-4}$

alkylene)-CN, -(C₀₋₄ alkylene)-CHO, -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-NH-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-N(C₁₋₅ alkyl)-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-NH₂, -(C₀₋₄ alkylene)-SO₂-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-cycloalkyl and -(C₀₋₄ alkylene)-heterocycloalkyl, wherein the cycloalkyl moiety in said -(C₀₋₄ alkylene)-cycloalkyl and the heterocycloalkyl moiety in said -(C₀₋₄ alkylene)-heterocycloalkyl are each optionally substituted with one or more groups R^{Cyc};

n is an integer of 0 to 4;

Z¹, Z² and Z³ are each independently C(-R⁶) or N;

R⁴ is selected from hydrogen, C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SH, -(C₀₋₄ alkylene)-S(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH₂, -(C₀₋₄ alkylene)-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-OH, -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-OH, -(C₀₋₄ alkylene)-NH-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-O(C₁₋₅ alkyl), halogen, C₁₋₅ haloalkyl, -(C₀₋₄ alkylene)-O-(C₁₋₅ haloalkyl), -(C₀₋₄ alkylene)-CN, -(C₀₋₄ alkylene)-CHO, -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-NH-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-N(C₁₋₅ alkyl)-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-NH₂, -(C₀₋₄ alkylene)-SO₂-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-carbocyclyl, and -(C₀₋₄ alkylene)-heterocyclyl, wherein the carbocyclyl moiety in

said $-(C_{0-4} \text{ alkylene})$ -carbocyclyl and the heterocyclyl moiety in said $-(C_{0-4} \text{ alkylene})$ -heterocyclyl are each optionally substituted with one or more groups R^{Cyc} ;

R^{5A} is selected from hydrogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4} \text{ alkylene})$ -OH, $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} alkylene)-OH, $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} alkylene)-O(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -SH, $-(C_{0-4} \text{ alkylene})$ -S(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH₂, $-(C_{0-4} \text{ alkylene})$ -NH(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH-OH, $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-OH, $-(C_{0-4} \text{ alkylene})$ -NH-O(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-O(C_{1-5} alkyl), halogen, C_{1-5} haloalkyl, $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} haloalkyl), $-(C_{0-4} \text{ alkylene})$ -CN, $-(C_{0-4} \text{ alkylene})$ -CHO, $-(C_{0-4} \text{ alkylene})$ -CO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -COOH, $-(C_{0-4} \text{ alkylene})$ -CO-O-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -O-CO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -CO-NH₂, $-(C_{0-4} \text{ alkylene})$ -CO-NH(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -CO-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH-CO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-CO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH-CO-O-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-CO-O-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -O-CO-NH-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -O-CO-N(C_{1-5} alkyl)-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -SO₂-NH₂, $-(C_{0-4} \text{ alkylene})$ -SO₂-NH(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -SO₂-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH-SO₂-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-SO₂-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -SO₂-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -SO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -carbocyclyl, and $-(C_{0-4} \text{ alkylene})$ -heterocyclyl, wherein the carbocyclyl moiety in said $-(C_{0-4} \text{ alkylene})$ -carbocyclyl and the heterocyclyl moiety in said $-(C_{0-4} \text{ alkylene})$ -heterocyclyl are each optionally substituted with one or more groups R^{Cyc} ;

each R^6 is independently selected from hydrogen, C_{1-5} alkyl, C_{2-5} alkenyl, C_{2-5} alkynyl, $-(C_{0-4} \text{ alkylene})$ -OH, $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} alkylene)-OH, $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} alkylene)-O(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -SH, $-(C_{0-4} \text{ alkylene})$ -S(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH₂, $-(C_{0-4} \text{ alkylene})$ -NH(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -NH-OH, $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-OH, $-(C_{0-4} \text{ alkylene})$ -NH-O(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -N(C_{1-5} alkyl)-O(C_{1-5} alkyl), halogen, C_{1-5} haloalkyl, $-(C_{0-4} \text{ alkylene})$ -O(C_{1-5} haloalkyl), $-(C_{0-4} \text{ alkylene})$ -CN, $-(C_{0-4} \text{ alkylene})$ -CHO, $-(C_{0-4} \text{ alkylene})$ -CO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -COOH, $-(C_{0-4} \text{ alkylene})$ -CO-O-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -O-CO-(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -CO-NH₂, $-(C_{0-4} \text{ alkylene})$ -CO-NH(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -CO-N(C_{1-5} alkyl)(C_{1-5} alkyl), $-(C_{0-4} \text{ alkylene})$ -

alkylene)-NH-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-NH-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-N(C₁₋₅ alkyl)-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-NH₂, -(C₀₋₄ alkylene)-SO₂-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-carbocyclyl, and -(C₀₋₄ alkylene)-heterocyclyl, wherein the carbocyclyl moiety in said -(C₀₋₄ alkylene)-carbocyclyl and the heterocyclyl moiety in said -(C₀₋₄ alkylene)-heterocyclyl are each optionally substituted with one or more groups R^{Cyc}; and

each R^{Cyc} is independently selected from C₁₋₅ alkyl, C₂₋₅ alkenyl, C₂₋₅ alkynyl, -(C₀₋₄ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-OH, -(C₀₋₄ alkylene)-O(C₁₋₅ alkylene)-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SH, -(C₀₋₄ alkylene)-S(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH₂, -(C₀₋₄ alkylene)-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-OH, -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-OH, -(C₀₋₄ alkylene)-NH-O(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-O(C₁₋₅ alkyl), halogen, C₁₋₅ haloalkyl, -(C₀₋₄ alkylene)-O-(C₁₋₅ haloalkyl), -(C₀₋₄ alkylene)-CN, -(C₀₋₄ alkylene)-CHO, -(C₀₋₄ alkylene)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-COOH, -(C₀₋₄ alkylene)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-NH₂, -(C₀₋₄ alkylene)-CO-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-CO-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-CO-O-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-NH-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-O-CO-N(C₁₋₅ alkyl)-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-NH₂, -(C₀₋₄ alkylene)-SO₂-NH(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-N(C₁₋₅ alkyl)(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-NH-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-N(C₁₋₅ alkyl)-SO₂-(C₁₋₅ alkyl), -(C₀₋₄ alkylene)-SO₂-(C₁₋₅ alkyl), and -(C₀₋₄ alkylene)-SO-(C₁₋₅ alkyl);

or a pharmaceutically acceptable salt or solvate thereof;

wherein if ring A is phenyl which is fused to the ring containing -CO-NR²-, then n is 1, 2, 3 or 4; and

wherein if ring A is phenyl which is fused to the ring containing $-\text{CO}-\text{NR}^2-$, and n is 1 or 2, then at least one group R^3 is different from halogen, from $-\text{O}(\text{C}_{1-4} \text{ alkyl})$, and from $-\text{OCF}_3$.

31. The compound of claim 30, wherein said compound is selected from:
- 3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-hydroxy-phenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-methoxyphenyl)-3-ethyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-methoxyphenyl)-3-propyl-6-(trifluoromethyl)indolin-2-one;
 - 3-benzyl-3-(5-chloro-2-methoxyphenyl)-6-(trifluoromethyl)indolin-2-one;
 - 2-(3-(5-chloro-2-methoxyphenyl)-2-oxo-6-(trifluoromethyl)indolin-3-yl)acetonitrile;
 - 3-allyl-3-(5-chloro-2-methoxyphenyl)-6-(trifluoromethyl)indolin-2-one;
 - 2-(3-(5-chloro-2-methoxyphenyl)-2-oxo-6-(trifluoromethyl)indolin-3-yl)acetic acid;
 - 5-chloro-6'-(trifluoromethyl)-2H-spiro[benzofuran-3,3'-indolin]-2'-one;
 - 7-methoxy-6'-(trifluoromethyl)-2,3-dihydrospiro[indene-1,3'-indolin]-2'-one;
 - 4-chloro-7-methoxy-6'-(trifluoromethyl)spiro[indane-1,3'-indoline]-2'-one;
 - 4,6-dichloro-7-methoxy-6'-(trifluoromethyl)spiro[indane-1,3'-indoline]-2'-one;
 - 3-(2-chloro-5-methoxy-4-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(3-methoxy-4-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-methyl-3-(4-pyridyl)-6-(trifluoromethyl)indolin-2-one;
 - 3-(2-chloro-4-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-[2-methoxy-5-(1-methylimidazol-2-yl)phenyl]-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(5-chloro-2-methoxy-phenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-b]pyridin-2-one;
 - 6'-chloro-6-(trifluoromethyl)-3'H-spiro[indoline-3,1'-isobenzofuran]-2,3'-dione;
 - 3-(5-chloro-2-methoxy-phenyl)-6-(difluoromethyl)-3-methyl-indolin-2-one;
 - 3-(5-chloro-2-methoxy-3-pyridyl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 3-(6-chloro-3-methoxypyridin-2-yl)-3-methyl-6-(trifluoromethyl)indolin-2-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methyl-1H-pyrrolo[3,2-c]pyridin-2(3H)-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methyl-1H-pyrrolo[3,2-b]pyridin-2(3H)-one;
 - 6-chloro-3-(5-chloro-2-methoxyphenyl)-3-methyl-1H-pyrrolo[2,3-b]pyridin-2(3H)-one;
 - 3-(5-chloro-2-methoxypyridin-3-yl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-c]pyridin-2(3H)-one;
 - 3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[2,3-b]pyridin-2(3H)-one;

3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-c]pyridin-2(3H)-one;
3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)-1H-pyrrolo[3,2-b]pyridin-2(3H)-one;
6-(5-chloro-2-methoxyphenyl)-6-methyl-3-(trifluoromethyl)-4H-pyrrolo[2,3-d]isoxazol-5(6H)-one;
6-(5-chloro-2-methoxyphenyl)-6-methyl-2-(trifluoromethyl)-4H-pyrrolo[3,2-d]oxazol-5(6H)-one;
or a pharmaceutically acceptable salt or solvate thereof.

32. The compound of claim 30, wherein said compound is 3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one or a pharmaceutically acceptable salt or solvate thereof.
33. The compound of claim 30, wherein said compound is (3R)-3-(5-chloro-2-methoxyphenyl)-3-methyl-6-(trifluoromethyl)indolin-2-one or a pharmaceutically acceptable salt or solvate thereof.
34. The compound of any one of claims 30 to 33 for use as a medicament.
35. The compound of any one of claims 30 to 33 for use in the treatment or prevention of a disease/disorder selected from stroke, ischemia reperfusion injury, ischemic heart disease, hypertension, myocardial infarction, allergic rhinitis, asthma, chronic obstructive pulmonary disease, multiple sclerosis, spasticity, tremor, a muscular disorder, dyskinesia, bladder dysfunction, overactive bladder, urinary incontinence, irritable bowel syndrome, faecal incontinence, constipation, gastro-oesophageal reflux disorder, impaired gastrointestinal passage, detrusor underactivity, erectile dysfunction, opioid-induced respiratory depression, anxiety, an anxiety disorder, sensory processing disorder, autism, an autism spectrum disorder, a social or pragmatic communication disorder, attention deficit hyperactivity disorder, social phobia, intellectual disability, pain, epilepsy, an epilepsy and/or seizure disorder, Dravet syndrome, generalized epilepsy and paroxysmal dyskinesia, temporal lobe epilepsy, psychosis, schizophrenia, negative symptoms of schizophrenia, cognitive impairment in schizophrenia, Phelan-McDermid syndrome, Rett syndrome, Pitt-Hopkins syndrome, 16p11.2 deletion syndrome, Williams-Beuren syndrome, open-angle ocular hypertension, glaucoma, tinnitus, diabetic retinopathy, tocolysis, migraine, Liang-

Wang syndrome, Smith-Lemli-Opitz syndrome, Angelman syndrome, and Hutchinson-Gilford progeria syndrome.