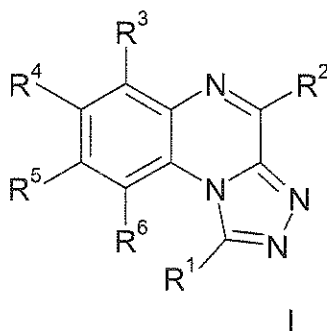


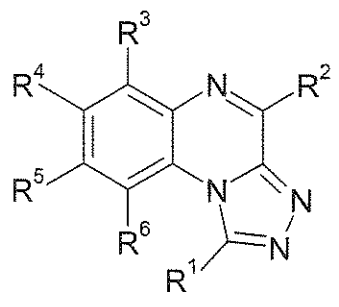
SUMMARY

The present invention disclosure provides, *inter alia*, compounds of formula (I):



or pharmaceutically acceptable salts thereof.

In a first aspect, there is provided a compound of formula (I):



or a pharmaceutically acceptable salt thereof; wherein:

R¹ represents

-phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl,

in each case substituted with a substituent different from H in an ortho position of the linkage to the backbone structure and optionally substituted with further substituents different from H,

wherein R¹ is substituted with 1 to 3 substituents R⁷, R⁸ and/or R⁹ different from H so that at least one of these substituents is in an ortho position of the attachment site to the backbone structure, wherein

R⁷, R⁸ and/or R⁹ are independently from each other representing

- halogen,

- NO₂,
- -C₁₋₆ alkyl, optionally substituted with up to 5, preferably up to 3 fluorine atoms,
- -OC₁₋₆ alkyl, optionally substituted with up to 5, preferably up to 3 fluorine atoms,
- -SC₁₋₆ alkyl, optionally substituted with up to 5 fluorine atoms,
- -phenyl which can be substituted with up to two halogen atoms and/or -CF₃ groups,
- -O(CH₂)_n-R¹¹, wherein n can be 0, 1, 2, 3 or 4

R¹¹ represents

if n = 2, 3 or 4:

- -OH,
- -OC₁₋₄ alkyl,
- -O(C=O)C₁₋₄ alkyl,

if n = 0, 1, 2, 3 or 4:

- -C₃₋₆ alkyl,
- a cyclic group, which is linked to O(CH₂)_n via a covalent bond or via -C(=O)-, -CH(OH)-, or -CH(halogen)-,

wherein the cyclic group is selected from phenyl or a C₃₋₈ (hetero)cycloalkyl, such as cyclopropyl, cyclobutyl, pyrrolidiny, piperidiny, piperaziny or morpholiny, pyran-4-yl, 2-pyridyl, 3-pyridyl, or 4-pyridyl.

R² represents

- hydrogen,
- C₁₋₄ alkyl, optionally substituted with up to 2 halo, e.g. fluorine atoms;

R^3 , R^4 , R^5 and R^6 are independently from each other representing

- hydrogen,
- halogen,
- C_{1-4} alkyl, optionally substituted with up to 5, preferably up to 3 halo, e.g. fluorine atoms, and/or $-OC_{1-2}$ (halo)alkyl,
- C_{3-8} cycloalkyl, optionally substituted with halo, $-C_{1-2}$ (halo)alkyl and/or $-OC_{1-2}$ (halo)alkyl,
- $-CN$,
- $-OH$,
- $-OC_{1-4}$ alkyl, optionally substituted with up to 5, preferably up to 3 halo, e.g. fluorine atoms, and/or $-OC_{1-2}$ (halo)alkyl,
- OC_{3-8} cycloalkyl optionally substituted with halo, $-C_{1-2}$ (halo)alkyl and/or $-OC_{1-2}$ (halo)alkyl,
- $-O(CH_2)_n-R^{10}$, wherein n can be 1 or 2;

R^{10} represents

- a cyclic group which is a phenyl or a heterocyclic, monocyclic or bicyclic ring system with 5 to 13 ring members and one to five heteroatoms and can be unsubstituted or substituted preferably up to 4 times by halogen, C_{1-4} alkyl, optionally substituted with up to 5, preferably up to 3 halogen atoms, or OC_{1-4} alkyl, optionally substituted with up to 5, preferably up to 3 halogen atoms,

but not the following compounds:

- 1-(2-hydroxyphenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline,
- 1-(2-chlorophenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline,
- 1-(2-nitrophenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline.

1-(2-methoxyphenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline,
1-(5-amino-2-chlorophenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline,
1-(5-amino-2-methoxyphenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline,
1-(5-amino-2-methylphenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline, or
1-(2-hydroxy-3-methoxyphenyl)-4-methyl-(1,2,4)triazolo[4,3-a]quinoxaline.

The present ~~invention~~disclosure also provides a pharmaceutical composition comprising a compound of formula (I), or a pharmaceutically acceptable salt thereof for use in medicine, and optionally a pharmaceutically acceptable carrier. The pharmaceutical composition may be used in human or veterinary medicine.

In a second aspect, there is provided the compound as defined above for use in medicine, particularly in human medicine, wherein the use in medicine also encompasses the compounds disclaimed above.

In a third aspect, there is provided the compound as defined above for use together with a pharmaceutically acceptable carrier.

The present ~~invention~~disclosure further provides a method of treating disorders associated with phosphodiesterase 2 and/or 10 hyperactivity, the method comprising administering to a patient in need thereof a therapeutically effective amount of a compound of formula (I), or a pharmaceutically acceptable salt thereof.

In a fourth aspect, there is provided the compound as defined above for use in a method of treating disorders associated with PDE2 and/or 10 hyperactivity.

The present ~~invention~~disclosure also provides a method of treating a central nervous system disorder in a patient in need thereof comprising, administering to said patient a therapeutically effective amount of a compound of formula (I), or a pharmaceutically acceptable salt thereof.

The present ~~invention~~disclosure further provides a method of treating obesity, type II diabetes, metabolic syndrome, glucose intolerance and related health risks, symptoms or disorders in a patient in need thereof comprising administering to said patient a therapeutically effective amount of a compound of formula (I), or a

pharmaceutically acceptable salt thereof.

In a fifth aspect, there is provided the compound as defined above for use in

- (i) a method of treating nervous central system disorder,
- (ii) a method of treating obesity, type II diabetes, metabolic syndrome, glucose intolerance and related health risks, symptoms or disorders,
- (iii) a method for the treatment of neurologic and psychiatric disorders.

The present ~~invention~~disclosure also provides a compound for use in any of the methods described herein. The present ~~invention~~disclosure further provides use of a compound for the preparation of a medicament for use in any of the methods described herein.

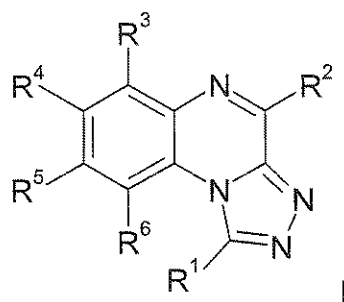
In a sixth aspect, there is provided the compound as defined above for use in the treatment of (1) disorders comprising the symptom of cognitive deficiency in a mammal, including a human; (2) organic, including symptomatic, mental disorders, dementia; (3) mental retardation; (4) mood [affective] disorders; (5) neurotic, stress-related and somatoform disorders including anxiety disorders; (6) behavioural and emotional disorders with onset usually occurring in childhood and adolescence, attention deficit hyperactivity syndrome (ADHD); (7) disorders of psychological development, developmental disorders of scholastic skills; (8) schizophrenia and other psychotic disorders; (9) disorders of adult personality and behaviour; (10) mental and behavioural disorders due to psychoactive substance use; (11) extrapyramidal and movement disorders; (12) episodic and paroxysmal disorders, epilepsy; (13) Systemic atrophies primarily affecting the central nervous system, ataxia; (14) Behavioural syndromes associated with physiological disturbances and physical factors; (15) sexual dysfunction comprising excessive sexual drive; (16) factitious disorders.

In a seventh aspect, there is provided the compound as defined above for use in the treatment of Alzheimer's disease.

The details of one or more embodiments of the ~~invention~~disclosure are set forth in the accompanying drawings and the description below. Other features, objects, and advantages of the ~~invention~~disclosure will be apparent from the description and drawings, and from the claims.

DETAILED DESCRIPTION

The present invention provides, *inter alia*, a compound of formula (I):



or a pharmaceutically acceptable salt thereof; wherein:

R¹ represents

- phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl,
- in each case substituted with a substituent different from H in an ortho position of the linkage to the backbone structure and optionally substituted with further substituents different from H,

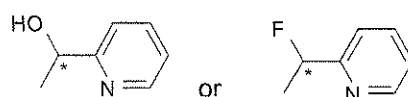
R² represents

- hydrogen,
- C₁₋₄ alkyl, preferably C₁₋₂ alkyl, optionally substituted with up to 5, 3 or 2 halo, e.g. fluorine atoms, such as -CH₃, -CH₂F, or -CHF₂ ;

9. The compound of any one of claims 1-8, wherein R^7 , R^8 , R^9 are independently from each other representing halogen, $-CH_3$ optionally substituted with up to 3 fluorine atoms, $-OC_{1-6}$ alkyl, optionally substituted with up to 3 fluorine atoms or $-O(CH_2)_n-R^{11}$, wherein n can be 1, 2, 3 or 4 and wherein R^{11} is ~~as defined in claim 2, and~~ particularly $-OCH_2CH_2CH_2OH$.

10. The compound of any one of claims 1-9, wherein R^{10} represents phenyl or quinolin-2-yl, which can be substituted up to two times by halogen and/or $-OCH_3$.

11. The compound of any one of claims 1-10, wherein R^{11} represents if n = 2, 3 or 4: $-OH$ or $-OCH_3$ and if n = 0, 1, 2, 3 or 4: phenyl, 2-pyridyl, 3-pyridyl, 4-pyridyl,



12. The compound of any one of claims 1-11 as described in any one of the Examples 1-31, 34-106 and 107-111, particularly as described in Example 98, selected from the group consisting of: