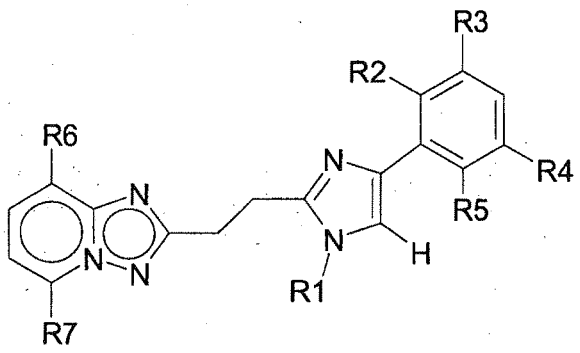
CLAIMS

1. A Compound according to Formula I



I

comprising at least one isotope selected from the group consisting of ^{11}C, ^{15}O, and ^{18}F, wherein R1-R7 are selected as follows:

a) when R1 is a radiolabelled group comprising at least on isotope selected from the group consisting of ^{11}C, ^{15}O, and ^{18}F, then R2-R7 are individually selected from H, F, methyl or methoxy;

b) when one or more of R2-R7 is a radiolabelled group comprising an isotope selected from the group consisting of ^{11}C, ^{15}O, and ^{18}F, or when one or more of R2-R5 is ^{18}F, then R1 is selected from the group consisting of H; C1-C6 alkyl, such as methyl, ethyl, 1-propyl, 2-propyl, isobutyl; C1-C6 alkyl(C3-C8)cycloalkyl, such as cyclopropylmethyl; C1-C6 hydroxyalkyl, such as hydroxyethyl; flouropropyl; flouromethyl; and flourobutyl.

or a salt or a hydrate form of the compound.

2. The compound of claim 1 wherein R3, R4, and R5 are H and R7 is CH_3.

3. The compound of claim 1a) and 2 wherein R2 is H and R6 is CH_3.

4. The compound according to claim 3 wherein R1 is selected from the group consisting of $^{11}CH_3$, $-CH_2{}^{11}CH_3$, $-{}^{11}CH_2CH_3$, $-CH_2CH_2{}^{11}CH_3$, $-{}^{11}CH_2CH_2CH_3$, $-{}^{11}CH_2CH_2CH_2CH_3$, $-CH_2CH_2CH_2{}^{11}CH_3$, $-CH_2CH_2{}^{18}F$, $-CH_2CH_2CH_2{}^{18}F$, $-CH_2CH_2CH_2CH_2{}^{18}F$.

5. The compound according to claim 4 wherein R1 is $^{11}CH_3$ ([^{11}C]methyl)

6. The compound according to claim 1b) and 2 wherein R1 and R6 are CH_3.

7. The compound according to claim 6 wherein R2 is $O^{11}CH_3$ ([^{11}C]methoxy).

8. The compound according to claim 1b) and 2 wherein R1 and R6 are CH_3.

9. The compound according to claim 8 wherein R2 is ^{18}F.

10. The compound according to claim 1b) and 2 wherein R1 is CH_3 and R2 is H.

11. The compound according to claim 10 wherein R6 is $O^{11}CH_3$ ([^{11}C]methoxy).

12. The compound according to claim 1, wherein the compound is selected from the group consisting of

5,8-dimethyl-2-[2-([^{11}C-1-methyl]-4-phenyl-1H-imidazol-2-yl)-ethyl]-[1,2,4]triazolo[1,5-a]pyridine,

8-Methoxy-5methyl-2-[2-(1-methyl-4-phenyl-1H-imidazol-2-yl)-ethyl]-[1,2,4]triazolo[1,5-a]pyridine),

2-{2-[4-(2-[^{11}C]methoxy-phenyl)-1-methyl-1H-imidazol-2-yl]-ethyl}-5,8-dimethyl-[1,2,4]triazolo[1,5-a]pyridine, and

2-{2-[4-(2-[^{18}F]fluoro-phenyl)-1-methyl-1H-imidazol-2-yl]-ethyl}-5,8-dimethyl-[1,2,4]triazolo[1,5-a]pyridine.

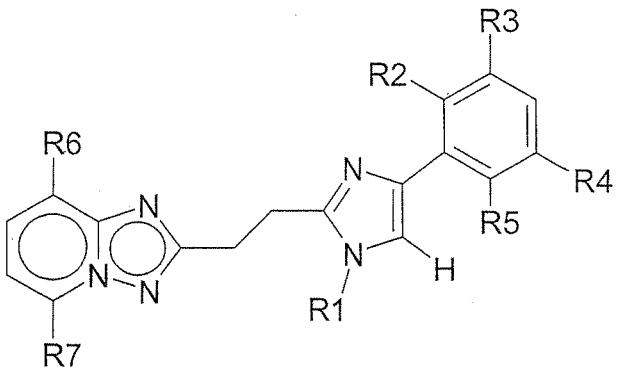
13. Use of a compound according to any of claims 1-12 as a PET ligand.

14. The use according to claim 13 for determination of the binding occupancy of a PDE10A enzyme ligand at the PDE10A enzyme.

15. A method for the preparation of a compound according to any of claim 1 to 12.

CLAIMS

1. A Compound according to Formula I



I

wherein R1-R7 are selected as follows:

a) R1 is a radiolabelled group comprising at least one isotope selected from the group consisting of $^{11}CH_3$, $-CH_2{}^{11}CH_3$, $-{}^{11}CH_2CH_3$, $-CH_2CH_2{}^{11}CH_3$, $-{}^{11}CH_2CH_2CH_3$, $-{}^{11}CH_2CH_2CH_2CH_3$, $-CH_2CH_2CH_2{}^{11}CH_3$, $-CH_2CH_2{}^{18}F$, $-CH_2CH_2CH_2{}^{18}F$, $-CH_2CH_2CH_2CH_2{}^{18}F$; R3, R4, and R5 are H and R7 is CH_3 and R2 is H and R6 is CH_3; or a salt or a hydrate form of the compound.

2. The compound according to claim 1 wherein R1 is $^{11}CH_3$ ([^{11}C]methyl).

3. The compound according to claim 1, wherein the compound is 5,8-dimethyl-2-[2-([^{11}C-1-methyl]-4-phenyl-1H-imidazol-2-yl)-ethyl]-[1,2,4]triazolo[1,5-a]pyridine.

4. Use of a compound according to any of claims 1-3 as a PET ligand.

5. The use according to claim 4 for determination of the binding occupancy of a PDE10A enzyme ligand at the PDE10A enzyme.

6. A method for the preparation of a compound according to any of claim 1 to 3.