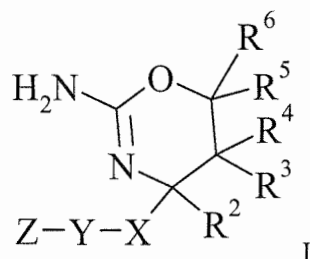


Claims

1. A compound of formula I,



wherein

5 X is selected from the group consisting of

- i) aryl,
- ii) aryl substituted by 1-2 substituents individually selected from R¹,
- iii) heteroaryl,
- iv) heteroaryl substituted by 1-2 substituents individually selected from R¹ and halogen-aryl,
- 10 v) C₃₋₆-cycloalkyl, and
- vi) C₃₋₆-cycloalkyl substituted by 1-2 substituents individually selected from R¹;

Y is selected from the group consisting of

- i) —C(=O)NH—,
- ii) —CH₂—,
- 15 ~~iii) i)~~ —NH—
- ~~iv) ii)~~ —NH-CH₂R⁷—, and
- v) —O-CH₂—, and
- ~~vi) iii)~~ absent;

Z is selected from the group consisting of

- 20 i) aryl,
- ii) aryl substituted by 1-2 substituents individually selected from R⁸,
- iii) heteroaryl, and
- iv) heteroaryl substituted by 1-2 substituents individually selected from R⁸,
- v) C₃₋₆-cycloalkyl,
- 25 vi) C₃₋₆-cycloalkyl substituted by 1-2 substituents individually selected from R⁸,
- vii) heterocyclyl,
- viii) heterocyclyl substituted by 1-2 substituents individually selected from R⁸,
- ix) C₂₋₆-alkynyl;
- x) C₁₋₆-alkyl, and
- 30 xi) C₁₋₆-alkyl substituted by 1-3 substituents individually selected from R⁹;

R¹ is selected from the group consisting of

- i) hydrogen,

- iii) C₁₋₆-alkyl, and
- R⁵ is selected from the group consisting of
- i) hydrogen, and
- ii) C₁₋₆-alkyl,
- 5 R⁶ is selected from the group consisting of
- i) hydrogen, and
- ii) C₁₋₆-alkyl,
- R⁷ is selected from the group consisting of
- i) hydrogen, and
- 10 ii) C₁₋₆-alkyl, and
- R⁸ is selected from the group consisting of
- i) halogen,
- ii) cyano,
- iii) C₁₋₆-alkyl,
- 15 iv) halogen-C₁₋₆-alkyl,
- v) C₁₋₆-alkoxy,
- vi) halogen-C₁₋₆-alkoxy,
- vii) aryl,
- viii) halogen-aryl, and
- 20 ix) C₃₋₆-cycloalkyl;

or pharmaceutically acceptable salts thereof.

3. A compound according to any of claims 1-2, wherein R² is C₁₋₆-alkyl.
4. A compound according to any of claims 1-3, wherein R² is methyl.
5. A compound according to any of claims 1-4, wherein R³ is halogen.
- 25 6. A compound according to any of claims 1-5, wherein R³ is F.
7. A compound according to any of claims 1-6, wherein R⁴ is H, methyl or F.
8. A compound according to any of claims 1-7, wherein R⁵ is H.
9. A compound according to any of claims 1-8, wherein R⁶ is H.
10. A compound according to any of claims 1-8, wherein X is aryl substituted by halogen.
- 30 11. A compound according to any of claims 1-9, wherein X is phenyl substituted by F.
12. A compound according to any of claims 1-11, wherein Y is ~~NHCH₂~~, ~~NH~~ or absent.

~~13.12.~~ A compound according to any of claims 1-~~12~~11, wherein Z is heteroaryl substituted by 1-2 substituents individually selected from R⁸ or C₃₋₆-cycloalkyl.

~~14.13.~~ A compound according to any of claims 1-~~13~~12, wherein R⁸ is selected from the group consisting of

- 5 i) halogen,
 ii) cyano,
 iii) C₁₋₆-alkyl, and
 iv) halogen-C₁₋₆-alkyl.

~~15.14.~~ A compound according to any of claims 1-~~14~~13, selected from the group consisting of

- 10 (S)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-5-Fluoro-4-[2-fluoro-5-(2-methoxy-phenylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-4-[5-(2-Difluoromethoxy-phenylamino)-2-fluoro-phenyl]-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
15 (4R,5R)-5-Fluoro-4-{2-fluoro-5-[(thiophen-2-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-5-Fluoro-4-{2-fluoro-5-[(thiophen-3-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
20 (4R,5R)-5-Fluoro-4-[2-fluoro-5-(2-fluoro-benzylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-4-[5-(Cyclopropylmethyl-amino)-2-fluoro-phenyl]-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-5-Fluoro-4-{2-fluoro-5-[1-(4-fluoro-phenyl)-1H-pyrazol-4-yl]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
25 (4R,5R)-5-Fluoro-4-[2-fluoro-5-(4-methyl-pyrazol-1-yl)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5-fluoro-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
30 (4R,5R)-4-{5-[(4-Chloro-1-methyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5-fluoro-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(4R,5R)-5-Fluoro-4-{2-fluoro-5-[1-(2-methyl-5-trifluoromethyl-oxazol-4-yl)-ethylamino]-phenyl}-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(R)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
35 (R)-4-{5-[1-(4-Chloro-1-methyl-1H-pyrazol-3-yl)-ethylamino]-2-fluoro-phenyl}-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

- (R)-4-{5-[1-(5-Cyclopropyl-isoxazol-3-yl)-ethylamino]-2-fluoro-phenyl}-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 4-[5-(5-Chloro-pyridin-3-yl)-2-fluoro-phenyl]-4-difluoromethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 (R)-4-[5-(5-Chloro-pyridin-3-yl)-2-fluoro-phenyl]-4-difluoromethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 (S)-4-[5-(5-Chloro-pyridin-3-yl)-2-fluoro-phenyl]-4-difluoromethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
~~(R)-5,5-Difluoro-4-methyl-4-[3-(3,3,3-trifluoro-propoxy)-phenyl]-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,~~
 2-[3-((R)-2-Amino-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-benzonitrile,
 (R)-5,5-Difluoro-4-(2-fluoro-5-o-tolylamino-phenyl)-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 (R)-4-(5-Cyclopentylamino-2-fluoro-phenyl)-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 (R)-4-(3',5'-Dichloro-4-fluoro-biphenyl-3-yl)-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 3'-((R)-2-Amino-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-6-chloro-4'-fluoro-biphenyl-3-carbonitrile,
 (R)-4-[5-(1,1-Dioxo-2,3-dihydro-1H-1λ⁶-benzo[b]thiophen-3-ylamino)-2-fluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
 5-[3-((4R,5R)-2-Amino-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenyl]-nicotinonitrile,
 7-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-6,7-dihydro-5H-[1]pyrindine-3-carbonitrile,
 [3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenyl]-(3-chloro-6,7-dihydro-5H-[1]pyrindin-7-yl)-amine,
 8-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-5,6,7,8-tetrahydro-quinoline-3-carbonitrile,
 4-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-phenoxymethyl]-benzonitrile,
~~3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-N-prop-2-ynyl-benzamide,~~
 3-[4-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-pyrazol-1-yl]-benzonitrile,
~~(1R,2R)-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-cyclopropanecarboxylic acid(3-chloro-quinolin-8-yl)-amide,~~
~~(1S,2S)-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-cyclopropanecarboxylic acid(3-chloro-quinolin-8-yl)-amide,~~

- (1R,2R)-2-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-
cyclopropanecarboxylic acid(6-cyano-thieno[3,2-b]pyridin-3-yl)-amide,
(R)-4-(5-{1-[4-Chloro-1-(2,2-difluoro-ethyl)-1H-pyrazol-3-yl]-ethylamino}-2-fluoro-phenyl)-5,5-
difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
5 (4R,5R)-4-[5-(3,5-Difluoro-benzylamino)-2-fluoro-phenyl]-5-fluoro-4-methyl-5,6-dihydro-4H-
[1,3]oxazin-2-ylamine,
(R)-4-[3-(5-Chloro-pyridin-2-yl)-7-fluoro-3,4-dihydro-2H-benzo[1,4]oxazin-6-yl]-5,5-difluoro-4-methyl-
5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
(R)-4-[5-(6-Chloro-benzooxazol-2-yl)-2,4-difluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-
10 [1,3]oxazin-2-ylamine,
(R)-5,5-Difluoro-4-{2-fluoro-5-[1-(5-methyl-2H-pyrazol-3-yl)-ethylamino]-phenyl}-4-methyl-5,6-
dihydro-4H-[1,3]oxazin-2-ylamine,
(R)-5,5-Difluoro-4-{2-fluoro-5-[1-(2-methyl-5-trifluoromethyl-oxazol-4-yl)-ethylamino]-phenyl}-4-
methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
15 (R)-5,5-Difluoro-4-{2-fluoro-5-[(3-methyl-oxetan-3-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-
4H-[1,3]oxazin-2-ylamine,
(R)-4-[5-(Cyclopropylmethyl-amino)-2-fluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-
[1,3]oxazin-2-ylamine,
(R)-5,5-Difluoro-4-[2-fluoro-5-(tetrahydro-furan-3-ylamino)-phenyl]-4-methyl-5,6-dihydro-4H-
20 [1,3]oxazin-2-ylamine,
(R)-5,5-Difluoro-4-[2-fluoro-5-(oxetan-3-ylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-
ylamine,
(R)-5,5-Difluoro-4-{2-fluoro-5-[(tetrahydro-furan-3-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-
4H-[1,3]oxazin-2-ylamine,
25 (R)-5,5-Difluoro-4-{2-fluoro-5-[1-(4-fluoro-phenyl)-1H-pyrazol-4-yl]-phenyl}-4-methyl-5,6-dihydro-4H-
[1,3]oxazin-2-ylamine,
(R)-4-[5-(5-Chloro-pyridin-3-yl)-2,4-difluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-
2-ylamine,
30 (R)-5,5-Difluoro-4-methyl-4-[3-(4-trifluoromethyl-benzyloxy)-phenyl]-5,6-dihydro-4H-[1,3]oxazin-2-
ylamine,
(R)-5,5-Difluoro-4-methyl-4-[2-(4-methyl-benzyl)-3H-benzimidazol-5-yl]-5,6-dihydro-4H-[1,3]oxazin-
2-ylamine,
(R)-5,5-Difluoro-4-[5-fluoro-2-(4-methoxy-benzyl)-1H-indol-6-yl]-4-methyl-5,6-dihydro-4H-
[1,3]oxazin-2-ylamine,
35 (R)-5,5-Difluoro-4-[5-fluoro-2-(4-methyl-benzyl)-3H-indol-6-yl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-
2-ylamine,
(R)-5,5-Difluoro-4-[2-fluoro-5-(2-methoxy-phenylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-
[1,3]oxazin-2-ylamine,
(R)-5,5-Difluoro-4-[2-fluoro-5-(2-trifluoromethyl-phenylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-
40 [1,3]oxazin-2-ylamine,

(R)-5,5-Difluoro-4-[2-fluoro-5-(6-trifluoromethyl-pyridin-2-ylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(R)-5,5-Difluoro-4-[2-fluoro-5-(3-phenyl-cyclopentylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

5 (R)-4-[5-(5-Chloro-pyridin-3-yl)-2-fluoro-phenyl]-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

~~(R)-4-[2-(4-Ethyl-benzyl)-3H-benzoimidazol-5-yl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine;~~

10 ~~(R)-4-[5-((R,S)-2,2-Difluoro-cyclopropylmethoxy)-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine;~~

(R)-4-[1-(3-Ethynyl-phenyl)-1H-pyrazol-4-yl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(R)-4-(2,4-Difluoro-5-pyrimidin-5-yl-phenyl)-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

15 (R)-4-[5-(2-Chloro-phenylamino)-2-fluoro-phenyl]-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine, and

(S)-4-(5-Cyclopentylamino-2-fluoro-phenyl)-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine;

~~(R)-4-[3-(4-Chloro-benzyloxy)-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine;~~

20 ~~(R)-4-(3-Cyclopropylmethoxy-phenyl)-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine; and~~
~~(1S,2S)-rel-2-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-cyclopropanecarboxylic acid(3-chloro-quinolin-8-yl)-amide;~~

or a pharmaceutical acceptable salt thereof.

~~16-15.~~ A compound according to any of claims 1-1514, selected from the group consisting of

25 (S)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(4R,5R)-4-[5-(2-Difluoromethoxy-phenylamino)-2-fluoro-phenyl]-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(4R,5R)-4-[5-(Cyclopropylmethyl-amino)-2-fluoro-phenyl]-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

30 (4R,5R)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5-fluoro-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(4R,5R)-4-{5-[(4-Chloro-1-methyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5-fluoro-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

- (4R,5R)-5-Fluoro-4-[2-fluoro-5-(2-fluoro-benzylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (4R,5R)-5-Fluoro-4-[2-fluoro-5-(2-methoxy-phenylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 5 (4R,5R)-5-Fluoro-4-[2-fluoro-5-(4-methyl-pyrazol-1-yl)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (4R,5R)-5-Fluoro-4-{2-fluoro-5-[(thiophen-2-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (4R,5R)-5-Fluoro-4-{2-fluoro-5-[(thiophen-3-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 10 (4R,5R)-5-Fluoro-4-{2-fluoro-5-[1-(2-methyl-5-trifluoromethyl-oxazol-4-yl)-ethylamino]-phenyl}-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (4R,5R)-5-Fluoro-4-{2-fluoro-5-[1-(4-fluoro-phenyl)-1H-pyrazol-4-yl]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 15 (R)-4-(2,4-Difluoro-5-pyrimidin-5-yl-phenyl)-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-(3',5'-Dichloro-4-fluoro-biphenyl-3-yl)-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-(5-{1-[4-Chloro-1-(2,2-difluoro-ethyl)-1H-pyrazol-3-yl]-ethylamino}-2-fluoro-phenyl)-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 20 (R)-4-(5-Cyclopentylamino-2-fluoro-phenyl)-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- ~~(R)-4-[3-(4-Chloro-benzoyloxy)-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,~~
- (R)-4-[3-(5-Chloro-pyridin-2-yl)-7-fluoro-3,4-dihydro-2H-benzo[1,4]oxazin-6-yl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 25 (R)-4-[5-(1,1-Dioxo-2,3-dihydro-1H-1λ6-benzo[b]thiophen-3-ylamino)-2-fluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-[5-(2-Chloro-phenylamino)-2-fluoro-phenyl]-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 30 (R)-4-[5-(5-Chloro-pyridin-3-yl)-2,4-difluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-[5-(5-Chloro-pyridin-3-yl)-2-fluoro-phenyl]-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

- (R)-4-[5-(6-Chloro-benzooxazol-2-yl)-2,4-difluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-[5-(Cyclopropylmethyl-amino)-2-fluoro-phenyl]-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 5 (R)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-{5-[1-(4-Chloro-1-methyl-1H-pyrazol-3-yl)-ethylamino]-2-fluoro-phenyl}-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-4-{5-[1-(5-Cyclopropyl-isoxazol-3-yl)-ethylamino]-2-fluoro-phenyl}-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 10 (R)-5,5-Difluoro-4-(2-fluoro-5-o-tolylamino-phenyl)-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-5,5-Difluoro-4-[2-fluoro-5-(2-methoxy-phenylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 15 (R)-5,5-Difluoro-4-[2-fluoro-5-(2-trifluoromethyl-phenylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-5,5-Difluoro-4-[2-fluoro-5-(3-phenyl-cyclopentylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-5,5-Difluoro-4-[2-fluoro-5-(6-trifluoromethyl-pyridin-2-ylamino)-phenyl]-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 20 (R)-5,5-Difluoro-4-[2-fluoro-5-(oxetan-3-ylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-5,5-Difluoro-4-[2-fluoro-5-(tetrahydro-furan-3-ylamino)-phenyl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 25 ~~(R)-5,5-Difluoro-4-[5-fluoro-2-(4-methoxy-benzyl)-1H-indol-6-yl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,~~
- ~~(R)-5,5-Difluoro-4-[5-fluoro-2-(4-methyl-benzyl)-3H-indol-6-yl]-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,~~
- (R)-5,5-Difluoro-4-{2-fluoro-5-[(3-methyl-oxetan-3-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- 30 (R)-5,5-Difluoro-4-{2-fluoro-5-[(tetrahydro-furan-3-ylmethyl)-amino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,
- (R)-5,5-Difluoro-4-{2-fluoro-5-[1-(2-methyl-5-trifluoromethyl-oxazol-4-yl)-ethylamino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(R)-5,5-Difluoro-4-{2-fluoro-5-[1-(4-fluoro-phenyl)-1H-pyrazol-4-yl]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(R)-5,5-Difluoro-4-{2-fluoro-5-[1-(5-methyl-2H-pyrazol-3-yl)-ethylamino]-phenyl}-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

5 | ~~(R)-5,5-Difluoro-4-methyl-4-[2-(4-methyl-benzyl)-3H-benzoimidazol-5-yl]-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,~~

~~(R)-5,5-Difluoro-4-methyl-4-[3-(4-trifluoromethyl-benzyloxy)-phenyl]-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,~~

(S)-4-(5-Cyclopentylamino-2-fluoro-phenyl)-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

10 | 3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenyl)-(3-chloro-6,7-dihydro-5H-[1]pyrindin-7-yl)-amine,

2-[3-((R)-2-Amino-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-benzonitrile,

15 | 3'-((R)-2-Amino-5,5-difluoro-4,6,6-trimethyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-6-chloro-4'-fluoro-biphenyl-3-carbonitrile,

~~3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-N-prop-2-ynyl-benzamide,~~

4-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-phenoxymethyl]-benzonitrile,

20 | 5-[3-((4R,5R)-2-Amino-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenyl]-nicotinonitrile,

7-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-6,7-dihydro-5H-[1]pyrindine-3-carbonitrile, and

8-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-

25 | 5,6,7,8-tetrahydro-quinoline-3-carbonitrile,

or a pharmaceutical acceptable salt thereof.

~~17,16.~~ A compound according to any of claims 1 to ~~16~~15, selected from the group consisting of

(4R,5R)-4-[5-(Cyclopropylmethyl-amino)-2-fluoro-phenyl]-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

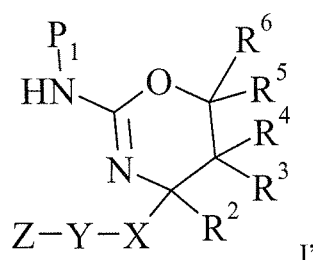
30 | (4R,5R)-4-{5-[(4-Chloro-1-difluoromethyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5-fluoro-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

(4R,5R)-4-{5-[(4-Chloro-1-methyl-1H-pyrazol-3-ylmethyl)-amino]-2-fluoro-phenyl}-5-fluoro-4,5-dimethyl-5,6-dihydro-4H-[1,3]oxazin-2-ylamine,

[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenyl]-(3-chloro-6,7-dihydro-5H-[1]pyrindin-7-yl)-amine,
5-[3-((4R,5R)-2-Amino-5-fluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenyl]-nicotinonitrile, and

7-[3-((R)-2-Amino-5,5-difluoro-4-methyl-5,6-dihydro-4H-[1,3]oxazin-4-yl)-4-fluoro-phenylamino]-6,7-dihydro-5H-[1]pyrindine-3-carbonitrile.

~~18~~17. A process for preparing a compound of formula I as defined in any of claims 1 to ~~17~~16, which process comprises reacting a compound of formula I' to a compound of formula I



10 wherein X, Y, Z, R¹, R², R³, R⁴, R⁵ and R⁶ are as defined in any of claim 1 to ~~15~~14 and P1 is an amino-protecting group..

~~19~~18. A compound of formula I according to any of claims 1-~~17~~16, whenever prepared by a process as defined in claim ~~18~~17.

15 ~~20~~19. A compound of formula I according to any of claims 1-~~17~~16 for use as therapeutically active substance.

~~21~~20. A compound of formula I according to claims 1-~~17~~16 for the use as therapeutically active substance for the therapeutic and/or prophylactic treatment of diseases and disorders characterized by elevated β -amyloid levels and/or β -amyloid oligomers and/or β -amyloid plaques and further deposits or Alzheimer's disease.

20 ~~22~~21. A compound of formula I claims 1-~~17~~16 for the use as therapeutically active substance for the therapeutic and/or prophylactic treatment of diabetes or type 2 diabetes.

25 ~~23~~22. A compound of formula I according to claims 1-~~17~~16 for the use as therapeutically active substance for the therapeutic and/or prophylactic treatment of amyotrophic lateral sclerosis (ALS), arterial thrombosis, autoimmune/inflammatory diseases, cancer such as breast cancer, cardiovascular diseases such as myocardial infarction and stroke, dermatomyositis, Down's Syndrome, gastrointestinal diseases, Glioblastoma multiforme, Graves Disease, Huntington's Disease, inclusion body myositis (IBM), inflammatory reactions, Kaposi Sarcoma, Kostmann Disease, lupus erythematosus, macrophagic myofasciitis, juvenile idiopathic arthritis, granulomatous arthritis, malignant melanoma, multiple mieloma,

rheumatoid arthritis, Sjogren syndrome, SpinoCerebellar Ataxia 1, SpinoCerebellar Ataxia 7, Whipple's Disease or Wilson's Disease.

5 | ~~24.~~23. A pharmaceutical composition comprising a compound of formula I according to any of claims 1-~~17~~16 and a pharmaceutically acceptable carrier and/or a pharmaceutically acceptable auxiliary substance.

| ~~25.~~24. Use of a compound of formula I according to any of claims 1-~~17~~16 for the manufacture of a medicament for the therapeutic and/or prophylactic treatment of Alzheimer's disease.

| ~~26.~~25. Use of a compound of formula I according to any of claims 1-~~17~~16 for the manufacture of a medicament for the therapeutic and/or prophylactic treatment of diabetes.

10 | ~~27.~~26. Use of a compound of formula I according to any of claims 1-~~17~~16 for the manufacture of a medicament for the therapeutic and/or prophylactic treatment of amyotrophic lateral sclerosis (ALS), arterial thrombosis, autoimmune/inflammatory diseases, cancer such as breast cancer, cardiovascular diseases such as myocardial infarction and stroke, dermatomyositis, Down's Syndrome, gastrointestinal diseases, Glioblastoma multiforme, Graves Disease, Huntington's Disease, inclusion body myositis (IBM), inflammatory reactions, Kaposi Sarcoma, Kostmann Disease, lupus erythematosus, macrophagic myofasciitis, juvenile idiopathic arthritis, granulomatous arthritis, malignant melanoma, multiple mieloma, rheumatoid arthritis, Sjogren syndrome, SpinoCerebellar Ataxia 1, SpinoCerebellar Ataxia 7, Whipple's Disease or Wilson's Disease.

20 | ~~28. A method for the use in the therapeutic and/or prophylactic treatment of Alzheimer's disease, which method comprises administering a compound of formula I according to any of claims 1-17 to a human being or animal.~~

25 | ~~29. A method for the use in the therapeutic and/or prophylactic treatment of diabetes or type 2 diabetes, which method comprises administering a compound of formula I according to any of claims 1-17 to a human being or animal.~~

30 | ~~30. A method for the use in the therapeutic and/or prophylactic treatment of amyotrophic lateral sclerosis (ALS), arterial thrombosis, autoimmune/inflammatory diseases, cancer such as breast cancer, cardiovascular diseases such as myocardial infarction and stroke, dermatomyositis, Down's Syndrome, gastrointestinal diseases, Glioblastoma multiforme, Graves Disease, Huntington's Disease, inclusion body myositis (IBM), inflammatory reactions, Kaposi Sarcoma, Kostmann Disease, lupus erythematosus, macrophagic myofasciitis, juvenile idiopathic arthritis, granulomatous arthritis, malignant melanoma, multiple mieloma, rheumatoid arthritis, Sjogren syndrome, SpinoCerebellar Ataxia 1, SpinoCerebellar Ataxia 7, Whipple's Disease or Wilson's Disease, which method~~

35

~~comprises administering a compound of formula I according to any of claims 1-17 to a human being or animal.~~

~~***~~