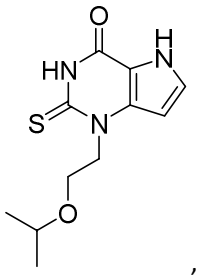
Claims

1. Use of a myeloperoxidase (MPO) inhibitor in the manufacture of a medicament for the treatment or prophylaxis of male infertility, wherein the MPO inhibitor is selected from the group consisting of:

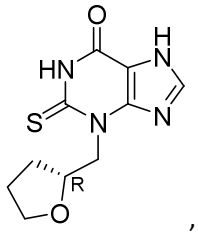
a) 1-(2-isopropoxyethyl)-2-thioxo-2,3-dihydro-1H-pyrrolo[3,2-d]pyrimidin-4(5H)-one,



,

or a pharmaceutically acceptable salt or solvate thereof,

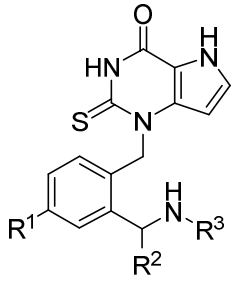
b) 3-[[(2R)-tetrahydrofuran-2-yl]methyl]-2-thioxo-7H-purin-6-one,



,

or a pharmaceutically acceptable salt or solvate thereof, or

c) a compound of Formula (I)



(I)

wherein:

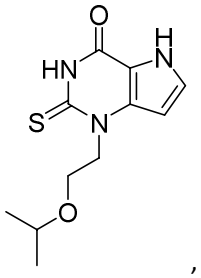
R^1 is H, F, CI or CF_3;

R^2 is H, CH_3 or C_2H_5; and

R^3 is H, CH_3, C_2H_5, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclobutylmethyl or cyclopentyl;

or a pharmaceutically acceptable salt or solvate thereof.

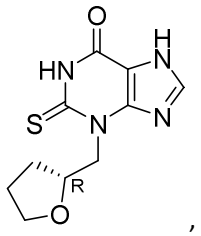
2. The use according to claim 1, wherein the MPO inhibitor is 1-(2-isopropoxyethyl)-2-thioxo-2,3-dihydro-1H-pyrrolo[3,2-d]pyrimidin-4(5H)-one,



,

or a pharmaceutically acceptable salt or solvate thereof.

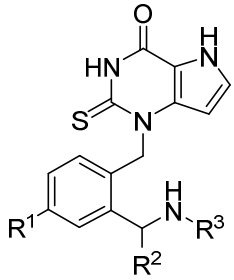
3. The use according to claim 1, wherein the MPO inhibitor is 3-[[(2R)-tetrahydrofuran-2-yl]methyl]-2-thioxo-7H-purin-6-one,



,

or a pharmaceutically acceptable salt or solvate thereof.

4. The use according to claim 1, wherein the MPO inhibitor is a compound of Formula (I)



(I)

wherein:

R^1 is H, F, CI or CF_3;

R^2 is H, CH_3 or C_2H_5; and

R^3 is H, CH_3, C_2H_5, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl, cyclopropyl, cyclopropylmethyl, cyclobutyl, cyclobutylmethyl or cyclopentyl;

or a pharmaceutically acceptable salt or solvate thereof.

5. The use according to claim 4, wherein the MPO inhibitor is a compound of Formula (I) selected from:

1-{2-[(1R)-1-aminopropyl]-4-chlorobenzyl}-2-thioxo-1,2,3,5-tetrahydro-4*H*-pyrrolo[3,2-d]pyrimidin-4-one;

1-[2-(1-aminoethyl)-4-chlorobenzyl]-2-thioxo-1,2,3,5-tetrahydro-4*H*-pyrrolo[3,2-d]pyrimidin-4-one;

1-{2-[(1R)-1-aminoethyl]-4-chlorobenzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-{2-[(1S)-1-aminoethyl]-4-chlorobenzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-{4-chloro-2-[1-(methylamino)ethyl]benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-{4-chloro-2-[(ethylamino)methyl]benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-[2-(aminomethyl)-4-chlorobenzyl]-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin- 4-one;

1-{4-chloro-2-[(methylamino)methyl]benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-(2-{[(cyclobutylmethyl)amino]methyl}benzyl)-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-{2-[(cyclobutylamino)methyl]benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-{2-[(cyclopentylamino)methyl]benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-(2-{[(2-methylpropyl)amino]methyl}benzyl)-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

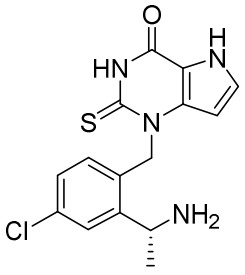
1-{2-[(propan-2-ylamino)methyl]benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one;

1-[2-(aminomethyl)-4-(trifluoromethyl)benzyl]-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2 d]pyrimidin-4-one;

1-{2-[(methylamino)methyl]-4-(trifluoromethyl)benzyl}-2-thioxo-1,2,3,5-tetrahydro-4H-pyrrolo[3,2-d]pyrimidin-4-one; and

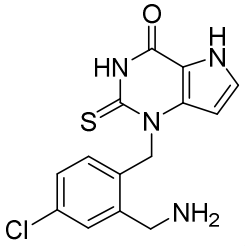
pharmaceutically acceptable salts or solvates thereof.

6. The use according to claim 4, wherein the MPO inhibitor is



, or a pharmaceutically acceptable salt or solvate thereof.

7. The use according to claim 4, wherein the MPO inhibitor is



, or a pharmaceutically acceptable salt or solvate thereof.

8. The use according to any one of the preceding claims, wherein the male infertility is male idiopathic infertility.

9. The use according to any one of the preceding claims, wherein the medicament is to be administered to a human patient.

10. The use according to any one of claims 1 to 8, wherein the medicament is to be administered to a non-human land mammal.