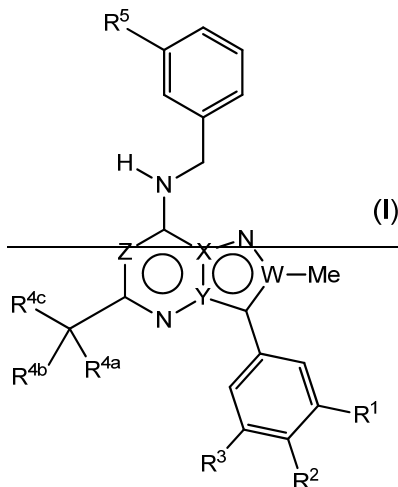


CLAIMS

1. A compound of formula (I) or a pharmaceutically acceptable salt thereof,



5

wherein

W is C, X is C, Y is N and Z is C;

W is C, X is N, Y is C and Z is C;

W is C, X is N, Y is C and Z is N;

10 W is N, X is C, Y is C and Z is N; or

W is N, X is C, Y is C and Z is C;

R^1 is C_{1-4} alkoxy, $C(=O)N(R^{1a}R^{1b})$, $S(=O)_2N(R^{1a}R^{1b})$, $S(=O)_2R^{1e}$ or $S(=O)R^{1e}$, wherein

15

R^{1a} is C_{1-3} alkyl, halo C_{1-3} alkyl, hydroxy C_{1-3} alkyl, C_{1-3} alkoxy C_{1-3} alkyl, tetrahydropyranyl or tetrahydrofuranyl; R^{1b} is H or C_{1-3} alkyl, or R^{1a} and R^{1b} , together with the nitrogen to which they are attached, form a 4- to 7-membered ring, which ring contains ring carbon atoms and optionally one ring oxygen atom, wherein the ring is a) optionally substituted by one or two groups selected from C_{1-3} alkyl, halo, C_{1-3} alkoxy, hydroxy, hydroxy C_{1-3} alkyl and oxo, which may be the same or different or b) is ortho- or spiro-fused to an unsubstituted 4-6 membered cycloalkane ring or an unsubstituted 4-6 membered saturated heterocyclic ring; and R^{1e} is C_{1-3} alkyl, C_{1-3} alkoxy, hydroxy, hydroxy C_{1-3} alkyl or C_{1-3} alkoxy C_{1-3} alkyl;

20

R^2 is H, C_{1-3} alkyl, halo or OR^{2a} , wherein R^{2a} is H or an unsubstituted linear C_{1-3} alkyl chain, wherein one or two chain carbon atoms are optionally replaced by oxygen atoms;

25

R^3 is H or halo;

and wherein either

i) R^{4a} is H, C_{1-3} alkyl or halo; R^{4b} is C_{1-3} alkyl, cyclopropyl or hydroxy C_{1-2} alkyl; or R^{4a} and R^{4b} together with the carbon to which they are attached form an unsubstituted 3-6 membered saturated ring containing ring carbon atoms and optionally a ring oxygen atom, wherein the ring is optionally substituted by one C_{1-3} alkyl group or one hydroxy C_{1-2} alkyl group; and R^{4c} is OH, hydroxymethyl or hydroxyethyl;

ii) R^{4a} is H, C_{1-3} alkyl, halo or OH; R^{4b} is H, C_{1-3} alkyl or halo; R^{4c} is an unsubstituted ring selected from the list consisting of oxetanyl, tetrahydrofuranyl and tetrahydropyranyl; or

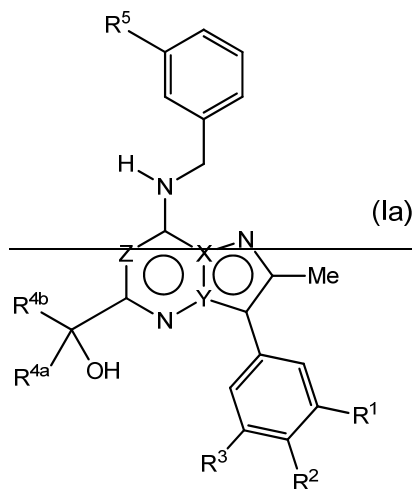
iii) R^{4a} is H, and R^{4b} and R^{4c} together with the carbon to which they are attached form an unsubstituted ring selected from the list consisting of oxetane, tetrahydrofuran or tetrahydropyran; and

R^5 is

a) imidazol-2-yl optionally substituted by a C_{1-3} alkyl group at the 1 position and optionally substituted by a methyl group at the 5 position; or

b) pyrazol-1-yl optionally substituted by a C_{1-3} alkyl group at the 5 position and optionally substituted by a methyl group at the 4 position.

2. The compound according to claim 1, wherein the compound is a compound according to formula (Ia) or a pharmaceutically acceptable salt thereof:



wherein

X is N or C, Y is N or C and Z is N or C; wherein X and Y cannot both be N or both be C; and wherein when Z is N, X is N and Y is C;

R^1 is C_{1-4} alkoxy, $-C(=O)N(R^{1a}R^{1b})$, $-S(=O)_2-N(R^{1a}R^{1b})$, $-S(=O)_2-R^{1c}$ or $-S(=O)-R^{1c}$, wherein

R^{1a} is C_{1-3} alkyl, halo C_{1-3} alkyl, hydroxy C_{1-3} alkyl or C_{1-3} alkoxy C_{1-3} alkyl; R^{1b} is H or C_{1-3} alkyl, or R^{1a} and R^{1b} together with the nitrogen to which

- they are attached, form a 4- to 7- membered ring, which ring contains ring carbon atoms and optionally one ring oxygen atom, wherein the ring is a) optionally substituted by one or two groups selected from C₁₋₃alkyl, halo, C₁₋₃alkoxy, hydroxy and oxo, which may be the same or different or b) is ortho or spiro fused to an unsubstituted 4-6 membered cycloalkane ring or an unsubstituted 4-6 membered saturated heterocyclic ring; and
- R^{1e} is C₁₋₃alkyl, C₁₋₃alkoxy, hydroxy, hydroxyC₁₋₃alkyl or C₁₋₃alkoxyC₁₋₃alkyl;
- R² is H, C₁₋₃alkyl, chloro or O-R^{2a}, wherein R^{2a} is H or an unsubstituted linear C₁₋₃alkyl chain, wherein one or two chain carbon atoms are optionally replaced by oxygen atoms;
- R³ is H or fluoro
- R^{4a} is H or methyl;
- R^{4b} is C₁₋₃alkyl or hydroxyC₁₋₂alkyl; and
- R⁵ is
- a) imidazol-2-yl optionally substituted by a C₁₋₃alkyl group at the 1 position and optionally substituted by a methyl group at the 5 position; or
- b) pyrazol-1-yl optionally substituted by a C₁₋₃alkyl group at the 5 position and optionally substituted by a methyl group at the 4 position.
3. ~~The compound according to claim 1 or a pharmaceutically acceptable salt thereof, wherein:~~
- i) R^{4a} is H, C₁₋₃alkyl or fluoro; R^{4b} is C₁₋₃alkyl, cyclopropyl or hydroxyC₁₋₂alkyl; or R^{4a} and R^{4b} together with the carbon to which they are attached form an unsubstituted 3-6 membered saturated ring containing ring carbon atoms and optionally a ring oxygen atom, wherein the ring is optionally substituted by one C₁₋₃alkyl group or one hydroxyC₁₋₂alkyl group; and R^{4c} is OH, hydroxymethyl or hydroxyethyl;
- ii) R^{4a} is H, C₁₋₃alkyl, fluoro or OH; R^{4b} is H, C₁₋₃alkyl or fluoro; R^{4c} is an unsubstituted ring selected from the list consisting of oxetanyl, tetrahydrofuranyl and tetrahydropyranyl; or
- iii) R^{4a} is H, and R^{4b} and R^{4c} together with the carbon to which they are attached form an unsubstituted ring selected from the list consisting of oxetane, tetrahydrofuran or tetrahydropyran.

4. ~~The compound according to claim 1 or claim 2 or a pharmaceutically acceptable salt thereof wherein R^2 is H, C_{1-3} alkyl, chloro or OR^{2a} , wherein R^{2a} is H or an unsubstituted linear C_{1-3} alkyl chain, wherein one or two chain carbon atoms are optionally replaced by oxygen atoms; and R^3 is H or fluoro.~~
5. ~~The compound according to claim 3 or claim 4 or a pharmaceutically acceptable salt thereof, wherein W is C, X is N, Z is C and Y is C.~~
6. ~~The compound according to claim 2 or a pharmaceutically acceptable salt thereof, wherein X is N, Z is C and Y is C.~~
7. ~~The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^1 is $C(=O)N(R^{1a}R^{1b})$ or $S(=O)_2R^{1e}$.~~
8. ~~The compound according to claim 7 or a pharmaceutically acceptable salt thereof, wherein R^1 is $C(=O)N(R^{1a}R^{1b})$.~~
9. ~~The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^{1a} is hydroxy C_{1-3} alkyl or tetrahydropyranyl.~~
10. ~~The compound according to claim 9 or a pharmaceutically acceptable salt thereof, wherein R^{1a} is hydroxy C_{1-3} alkyl.~~
11. ~~The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^{1a} is 3-hydroxy-1-propyl, 2-hydroxy-1-ethyl or 3-hydroxy-2-propyl.~~
12. ~~The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^{1b} is C_{1-3} alkyl.~~
13. ~~The compound according to claim 12 or a pharmaceutically acceptable salt thereof wherein R^{1b} is methyl or ethyl.~~
14. ~~The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^2 is C_{1-3} alkyl, chloro or OR^{2a} .~~
15. ~~The compound according to claim 14 or a pharmaceutically acceptable salt thereof wherein R^2 is C_{1-3} alkyl, chloro or methoxy.~~

16. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^3 is H.
17. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^{4a} is methyl.
18. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^{4b} is C_{1-3} alkyl.
19. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^{4a} is methyl and R^{4b} is methyl.
20. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^5 is imidazol-2-yl optionally substituted by a C_{1-3} alkyl group at the 1-position and optionally substituted by a methyl group at the 5-position.
21. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^5 is 1-methyl-1H-imidazol-2-yl.
22. The compound according to claim 1 selected from the group consisting of:
 2-chloro-N-ethyl-N-(2-hydroxyethyl)-5-(5-(1-hydroxyethyl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)benzamide (Compound 15);
 5-(5-(2-Hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N-(3-hydroxypropyl)-N,2-dimethylbenzamide (Compound 17);
 N-ethyl-N-(2-hydroxyethyl)-5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methoxybenzamide (Compound 19);
 (S)-N-(1-hydroxypropan-2-yl)-5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methoxy-N-methylbenzamide (Compound 20);
 5-(5-(2-Hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methoxy-N-methyl-N-(tetrahydro-2H-pyran-4-yl)benzamide (Compound 21);
 (S)-N-(1-hydroxypropan-2-yl)-5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N,2-dimethylbenzamide (Compound 22);

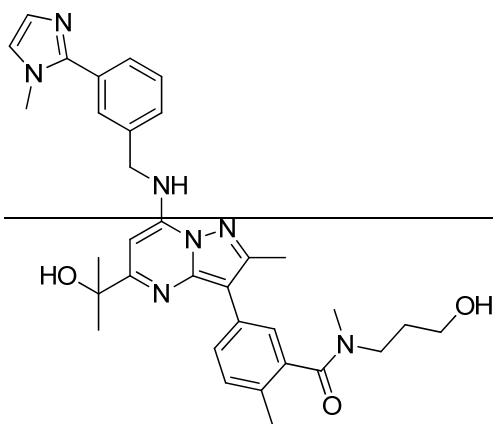
- (R)- (2- (hydroxymethyl)pyrrolidin-1-yl)(5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methylphenyl)methanone (Compound 25);
- 5 (S)- (5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methylphenyl)(3-hydroxypyrrolidin-1-yl)methanone (Compound 29);
- 5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N- (3-hydroxypropyl)-2-methoxy-N-methylbenzamide (Compound 32); and
- 10 (R)- (2- (hydroxymethyl)pyrrolidin-1-yl)(5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methoxyphenyl)methanone (Compound 36);
- N-ethyl-N- (2-hydroxyethyl)-5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methylbenzamide
- 15 (Compound 38);
- N- (2-hydroxyethyl)-5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N,2-dimethylbenzamide (Compound 43);
- 5- (5- (2-Hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N,2-dimethyl-N- (tetrahydrofuran-3-yl)benzamide (Compound 59);
- 20 5- (5- (2-Hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N- (2-hydroxypropyl)-N,2-dimethylbenzamide, isomer 1 (Compound 62);
- 25 5- (5- (2-Hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N- (2-hydroxypropyl)-N,2-dimethylbenzamide, isomer 2 (Compound 63);
- 2-Chloro-N- (2-hydroxyethyl)-5- (5- (2-hydroxypropan-2-yl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N-methylbenzamide
- 30 (Compound 37);
- N-((S)-1-Hydroxypropan-2-yl)-5- (5- (1-hydroxypropyl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N,2-dimethylbenzamide, isomer 1 (Compound 80);
- 35 N-((S)-1-Hydroxypropan-2-yl)-5- (5- (1-hydroxypropyl)-2-methyl-7-((3- (1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N,2-dimethylbenzamide, isomer 2 (Compound 81);

~~5-(5-(1-Hydroxybutan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N-(3-hydroxypropyl)-N,2-dimethylbenzamide, isomer 1 (Compound 66); and~~

~~5-(5-(1-Hydroxybutan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N-(3-hydroxypropyl)-N,2-dimethylbenzamide isomer 2 (Compound 67);~~

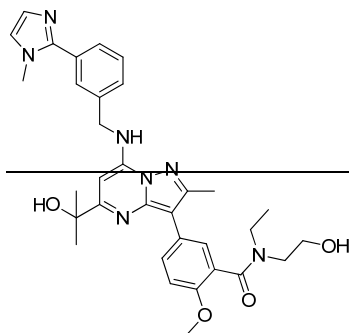
~~or a pharmaceutically acceptable salt thereof.~~

~~23. A compound according to claim 1 which is 5-(5-(2-Hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N-(3-hydroxypropyl)-N,2-dimethylbenzamide (Compound 17) of structure:~~



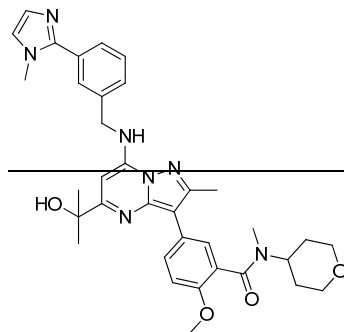
~~or a pharmaceutically acceptable salt thereof.~~

~~24. A compound according to claim 1 which is N-ethyl-N-(2-hydroxyethyl)-5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methoxybenzamide (Compound 19) of structure:~~



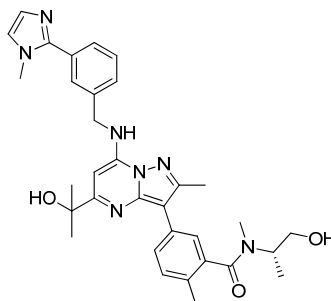
~~or a pharmaceutically acceptable salt thereof.~~

25. ~~A compound according to claim 1 which is 5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methoxy-N-methyl-N-(tetrahydro-2H-pyran-4-yl)benzamide (Compound 21) of structure:~~



5 ~~or a pharmaceutically acceptable salt thereof.~~

26.1. ~~A compound according to claim 1 which is (S)-N-(1-hydroxypropan-2-yl)-5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-N,2-dimethylbenzamide (Compound 22)~~



10 ~~or a pharmaceutically acceptable salt thereof.~~

27.2. ~~A compound defined in any preceding claim 1 or a pharmaceutically acceptable salt thereof, for use in therapy.~~

15 ~~28.3. A Use of a compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for use in the treatment of a viral infection.~~

20 ~~29.4. A Use of a compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof in the manufacture of a medicament for use in the treatment of a disorder caused or exacerbated by a viral infection.~~

25 ~~30.5. The Use compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof for use according to claim 294, wherein the disorder is COPD.~~

31. ~~A method of treating a viral infection comprising administering a compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof, to a patient in need thereof.~~
- 5 32. ~~A method of treating a disorder caused or exacerbated by a viral infection comprising administering a compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof, to a patient in need thereof.~~
- 10 33.6. ~~A pharmaceutical formulation comprising a compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable excipient.~~