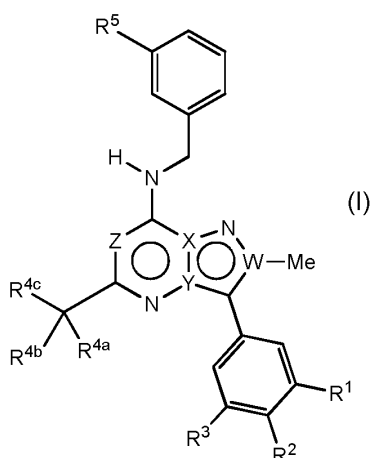


CLAIMS

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, $-C(=O)N(R^{1a}R^{1b})$, $-S(=O)_2-N(R^{1a}R^{1b})$, $-S(=O)_2-R^{1c}$ or $-S(=O)-R^{1c}$, 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^{1c} 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 $-O-R^{2a}$, 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;

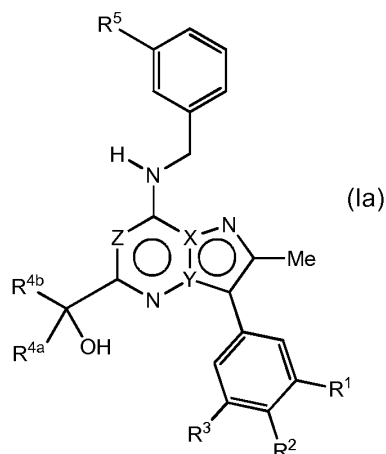
and wherein either

- 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} 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^{1c} 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
- c) 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
 - d) 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} 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 $-O-R^{2a}$, 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
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.
- 10
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 $-S(=O)_2-R^{1c}$.
- 15
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.
- 20
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.
- 25
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.
- 30
14. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R^2 is C_{1-3} alkyl, chloro or $-O-R^{2a}$.
- 35
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 R³ 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 C₁₋₃alkyl.
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 R⁵ is 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.
21. The compound according to any preceding claim or a pharmaceutically acceptable salt thereof wherein R⁵ 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-(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);

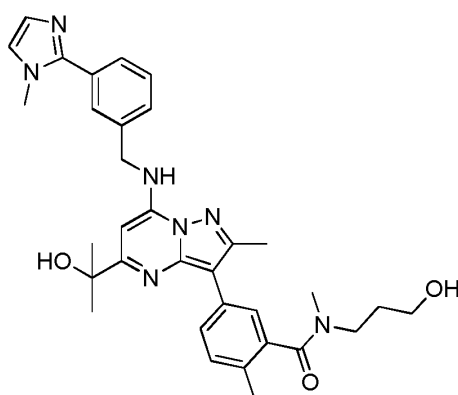
- (R)-(2-(hydroxymethyl)pyrrolidin-1-yl)(5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methylphenyl)methanone (Compound 25);
- 5 (S)-(5-(5-(2-hydroxypropan-2-yl)-2-methyl-7-((3-(1-methyl-1H-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-a]pyrimidin-3-yl)-2-methylphenyl)(3-hydroxypyrrolidin-1-yl)methanone (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);
- 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-dimethyl-N-(tetrahydrofuran-3-yl)benzamide (Compound 59);
- 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-1*H*-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-1*H*-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-*a*]pyrimidin-3-yl)-*N*-(3-hydroxypropyl)-*N*,2-dimethylbenzamide isomer 2 (Compound 67);

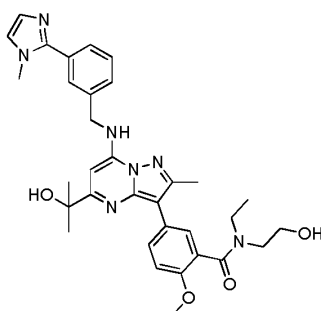
or a pharmaceutically acceptable salt thereof.

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



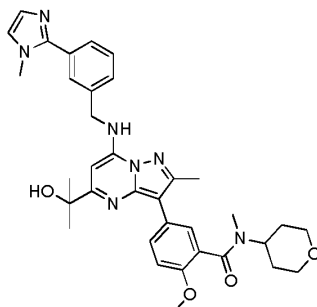
or a pharmaceutically acceptable salt thereof.

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-1*H*-imidazol-2-yl)benzyl)amino)pyrazolo[1,5-*a*]pyrimidin-3-yl)-2-methoxybenzamide (Compound 19) of structure:



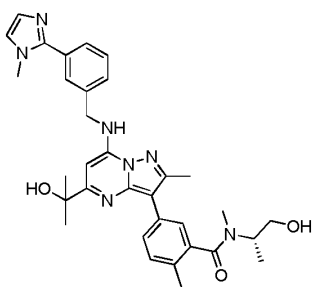
or a pharmaceutically acceptable salt thereof.

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



5 or a pharmaceutically acceptable salt thereof.

26. 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-1*H*-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. A compound defined in any preceding claim or a pharmaceutically acceptable salt thereof, for use in therapy.

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

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

30. The compound defined in any one of claims 1 to 26 or a pharmaceutically acceptable salt thereof for use according to claim 29, 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. 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.

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