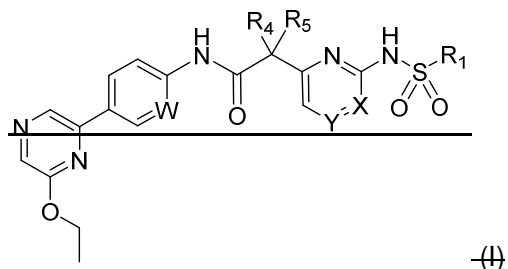


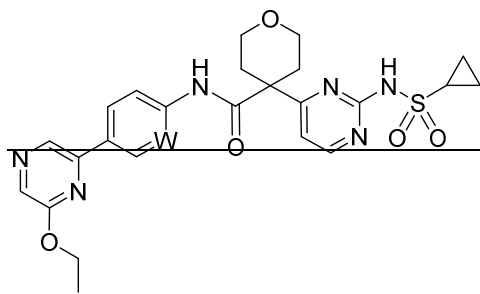
Claims

1. ~~A compound of formula (I):~~



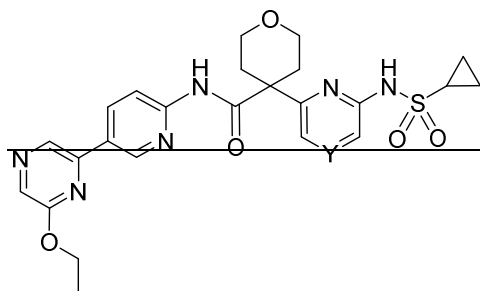
wherein:

5 ~~(a) when R₄, R₅, X, Y and R₁ are as follows:~~



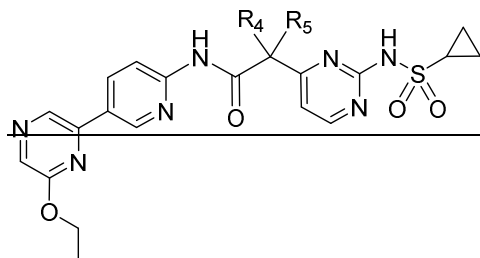
~~then W is N, CH or CF;~~

~~(b) when R₄, R₅, X, W and R₁ are as follows:~~

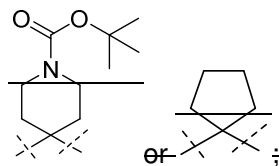


10 ~~then Y is CH or N;~~

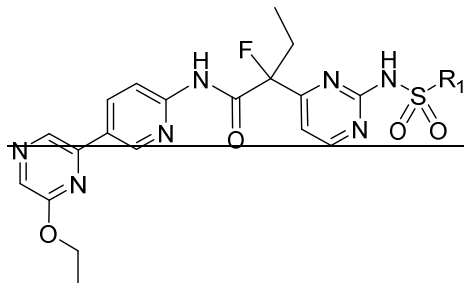
~~(c) when W, X, Y and R₁ are as follows:~~



then R_4 and R_5 are joined to form the following structures:

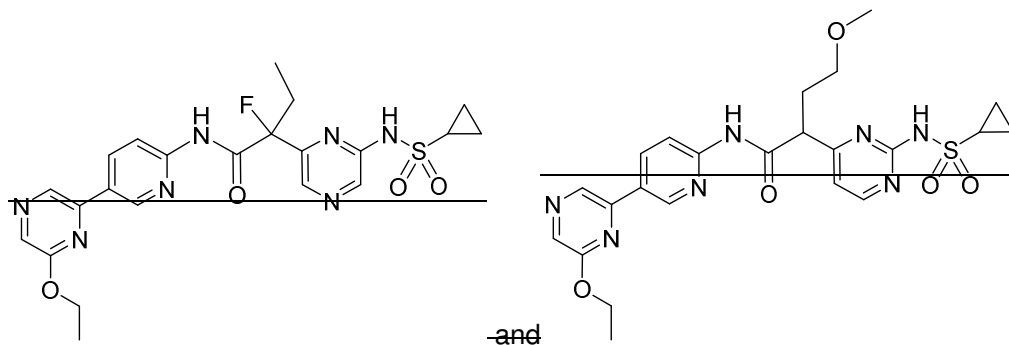


(d) when W , R_4 , R_5 , X and Y are as follows:



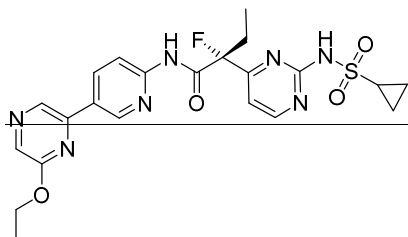
5 then R_1 is methyl or cyclopropyl; and

(e) the compound is selected from the group consisting of:



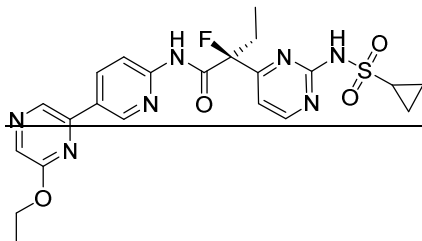
or a salt and/or solvate thereof and/or derivative thereof.

2. The compound according to claim 1 which is (*R*)-2-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluorobutanamide:



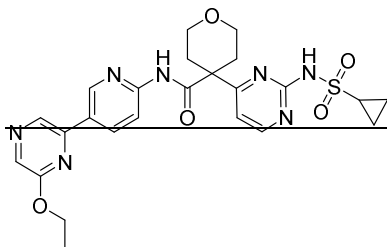
or a salt and/or solvate thereof and/or derivative thereof.

3. ~~The compound according to claim 1 which is (S)-2-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluorobutanamide:~~



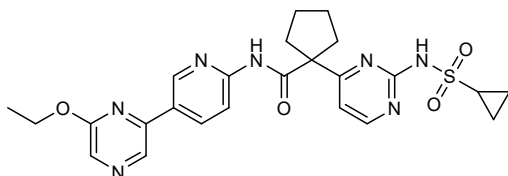
5 ~~or a salt and/or solvate thereof and/or derivative thereof.~~

4. ~~The compound according to claim 1 which is 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:~~



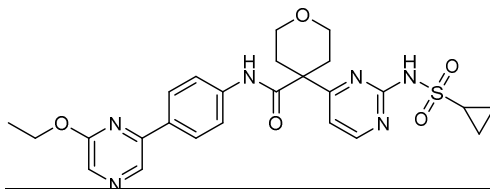
~~or a salt and/or solvate thereof and/or derivative thereof.~~

10 5. ~~The compound according to claim 1 which is 1-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)cyclopentane-1-carboxamide:~~



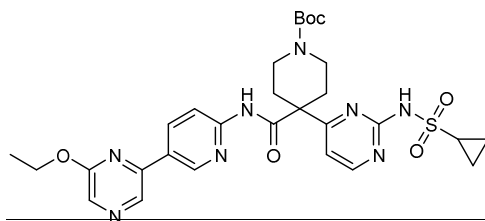
~~or a salt and/or solvate thereof and/or derivative thereof.~~

15 6. ~~The compound according to claim 1 which is 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(4-(6-ethoxypyrazin-2-yl)phenyl)tetrahydro-2H-pyran-4-carboxamide:~~



~~or a salt and/or solvate thereof and/or derivative thereof.~~

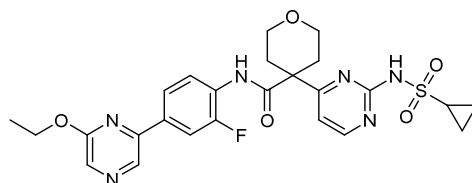
7. ~~The compound according to claim 1 which is *tert* butyl 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-4-((5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)carbamoyl)piperidine-1-carboxylate:~~



5

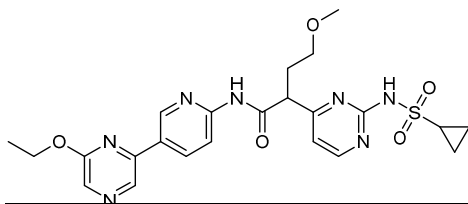
~~or a salt and/or solvate thereof and/or derivative thereof.~~

8. ~~The compound according to claim 1 which is 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(4-(6-ethoxypyrazin-2-yl)-2-fluorophenyl)tetrahydro-2H-pyran-4-carboxamide:~~



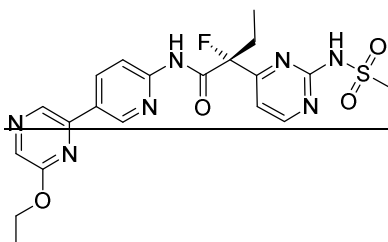
10 ~~or a salt and/or solvate thereof and/or derivative thereof.~~

9. ~~The compound according to claim 1 which is 2-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-4-methoxybutanamide:~~



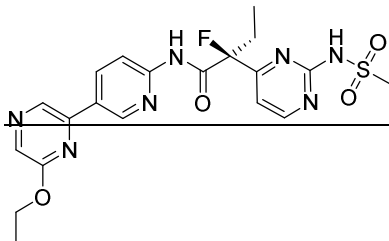
~~or a salt and/or solvate thereof and/or derivative thereof.~~

15 10. ~~The compound according to claim 1 which is (*R*)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluoro-2-(2-(methylsulfonamido)pyrimidin-4-yl)butanamide:~~



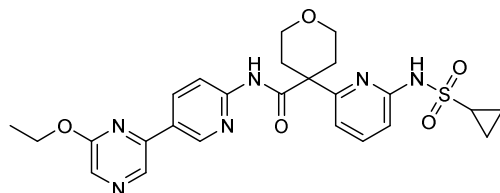
~~or a salt and/or solvate thereof and/or derivative thereof.~~

11. ~~The compound according to claim 1 which is (S)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluoro-2-(2-(methylsulfonamido)pyrimidin-4-yl)butanamide:~~



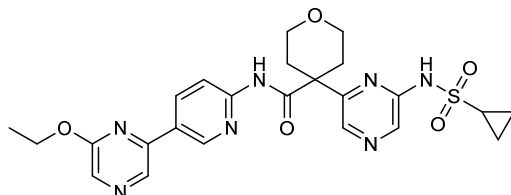
5 ~~or a salt and/or solvate thereof and/or derivative thereof.~~

12. ~~The compound according to claim 1 which is 4-(6-(cyclopropanesulfonamido)pyridin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:~~



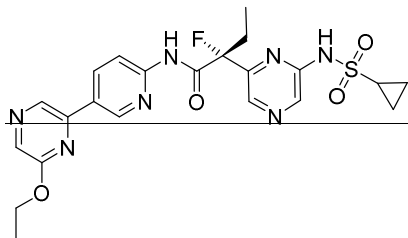
~~or a salt and/or solvate thereof and/or derivative thereof.~~

10 13. ~~The compound according to claim 1 which is 4-(6-(cyclopropanesulfonamido)pyrazin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:~~



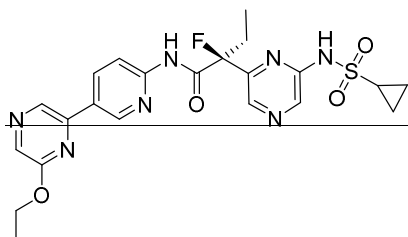
~~or a salt and/or solvate thereof and/or derivative thereof.~~

15 14. ~~The compound according to claim 1 which is (R)-2-(6-(cyclopropanesulfonamido)pyrazin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluorobutanamide:~~



or a salt and/or solvate thereof and/or derivative thereof.

15. — The compound according to claim 1 which is ~~(S)-2-(6-~~
~~(cyclopropanesulfonamido)pyrimidin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-~~
 5 ~~fluorobutanamide;~~



or a salt and/or solvate thereof and/or derivative thereof.

16. — The compound according to any one of claims 1 to 15 wherein the compound is in the
 form of a pharmaceutically acceptable salt.
- 10 17. — The compound according to any one of claims 1 to 15 wherein the compound is not in
 the form of a salt.
18. — The compound according to claim 1 which is selected from the group consisting of:
- ~~(R)-2-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-~~
~~fluorobutanamide;~~
- 15 ~~(S)-2-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-~~
~~fluorobutanamide;~~
- ~~4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-~~
~~yl)tetrahydro-2H-pyran-4-carboxamide;~~
- ~~1-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-~~
 20 ~~yl)cyclopentane-1-carboxamide;~~
- ~~4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(4-(6-ethoxypyrazin-2-yl)phenyl)tetrahydro-~~
~~2H-pyran-4-carboxamide;~~

~~tert-butyl 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-4-((5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)carbamoyl)piperidine-1-carboxylate;~~

~~4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(4-(6-ethoxypyrazin-2-yl)-2-fluorophenyl)tetrahydro-2H-pyran-4-carboxamide;~~

- 5 ~~2-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-4-methoxybutanamide;~~

~~(R)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluoro-2-(2-(methylsulfonamido)pyrimidin-4-yl)butanamide;~~

- 10 ~~(S)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluoro-2-(2-(methylsulfonamido)pyrimidin-4-yl)butanamide;~~

~~4-(6-(cyclopropanesulfonamido)pyridin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide;~~

~~4-(6-(cyclopropanesulfonamido)pyrazin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide;~~

- 15 ~~(R)-2-(6-(cyclopropanesulfonamido)pyrazin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluorobutanamide; and~~

~~(S)-2-(6-(cyclopropanesulfonamido)pyrazin-2-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)-2-fluorobutanamide.~~

~~19. The compound according to any one of claims 1 to 18 for use as a medicament.~~

- 20 ~~20. The compound according to claim 19, for use in the reduction of T-cell and/or B-cell proliferation in a subject.~~

- 25 ~~21. The compound according to claim 19, for use in the treatment or prophylaxis of: inflammatory skin diseases such as psoriasis or lichen planus; acute and/or chronic GVHD such as steroid resistant acute GVHD; acute lymphoproliferative syndrome (ALPS); systemic lupus erythematosus, lupus nephritis or cutaneous lupus; or transplantation.~~

~~22. The compound according to claim 19, for use in the treatment or prophylaxis of myasthenia gravis, multiple sclerosis or scleroderma/systemic sclerosis.~~

~~23. The compound according to claim 19, for use in the treatment of cancer.~~

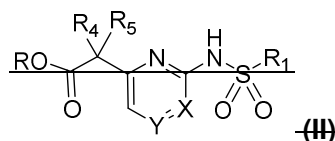
~~24. The compound according to claim 23, wherein the cancer is a haematological cancer.~~

25. ~~The compound according to claim 24 wherein the haematological cancer is selected from the group consisting of Acute myeloid leukemia, Angioimmunoblastic T-cell lymphoma, B-cell acute lymphoblastic leukemia, Sweet Syndrome, T-cell Non Hodgkins lymphoma (including natural killer/T-cell lymphoma, adult T-cell leukaemia/lymphoma, enteropathy type~~
 5 ~~T-cell lymphoma, hepatosplenic T-cell lymphoma and cutaneous T-cell lymphoma), T-cell acute lymphoblastic leukemia, B-cell Non-Hodgkins lymphoma (including Burkitt lymphoma, diffuse large B-cell lymphoma, Follicular lymphoma, Mantle cell lymphoma, Marginal Zone lymphoma), Hairy Cell Leukemia, Hodgkin lymphoma, Lymphoblastic lymphoma, Lymphoplasmacytic lymphoma, Mucosa-associated lymphoid tissue lymphoma, Multiple~~
 10 ~~myeloma, Myelodysplastic syndrome, Plasma cell myeloma, Primary mediastinal large B-cell lymphoma, chronic myeloproliferative disorders (such as chronic myeloid leukemia, primary myelofibrosis, essential thrombocytemia, polycythemia vera) and chronic lymphocytic leukemia.~~

26. ~~The compound according to claim 19, for use in enhancing recovery from vascular injury or surgery and reducing morbidity and mortality associated with neointima and~~
 15 ~~restenosis in a subject.~~

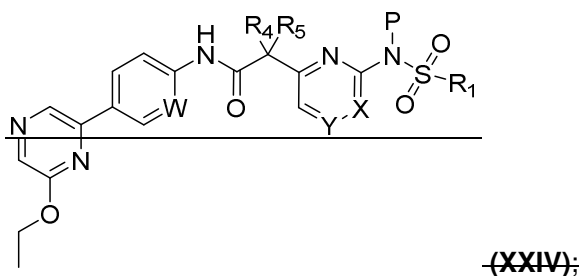
27. ~~A pharmaceutical composition comprising a compound according to any one of claims 1 to 18.~~

28. ~~A compound of formula (II):~~



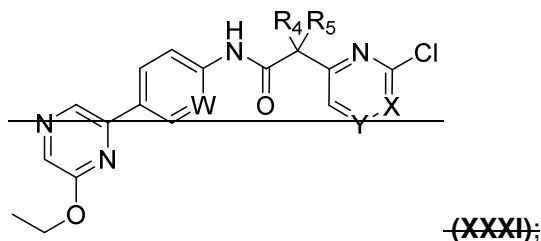
20 ~~wherein R₁, X, Y, R₄ and R₅ are as defined in any preceding claim and R is H, C₁₋₆alkyl (e.g. methyl and ethyl) or benzyl, or salts such as pharmaceutically acceptable salts, thereof.~~

29. ~~A compound of formula (XXIV):~~



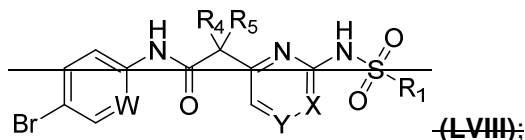
25 ~~wherein R₁, X, Y, R₄, R₅ and W are as defined in any preceding claim and P is a nitrogen protecting group such as para-methoxybenzyl; or salts such as pharmaceutically acceptable salts, thereof.~~

30. — A compound of formula ~~(XXXI)~~:



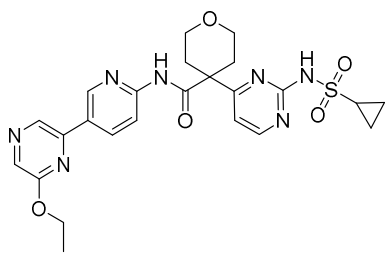
wherein X, Y, R₄, R₅ and W are as defined in any preceding claim; or salts such as pharmaceutically acceptable salts, thereof.

5 31. — A compound of formula ~~(LVIII)~~:



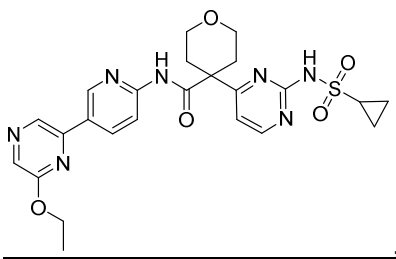
wherein R₁, X, Y, R₄, R₅ and W are as defined in any preceding claim; or salts such as pharmaceutically acceptable salts, thereof.

10 1. A compound which is 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:



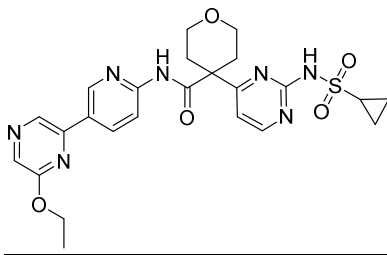
or a salt and/or solvate thereof.

2. The compound 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:



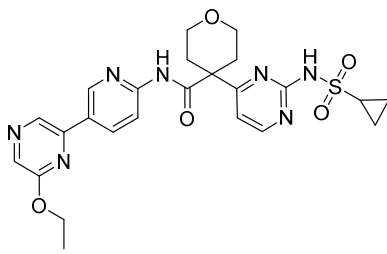
or a pharmaceutically acceptable salt and/or solvate thereof according to claim 1.

3. The pharmaceutically acceptable salt and solvate of 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:



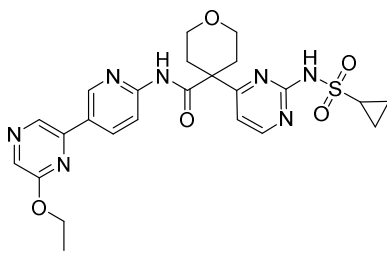
5 according to claim 2.

4. The pharmaceutically acceptable solvate of 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:



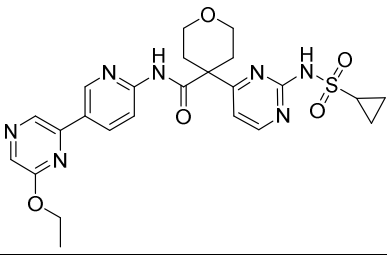
according to claim 2.

10 5. The pharmaceutically acceptable salt of 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:

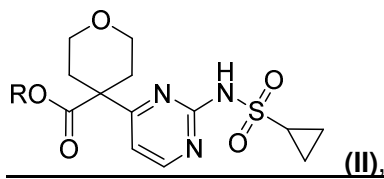


according to claim 2.

15 6. The compound according to claim 1 which is 4-(2-(cyclopropanesulfonamido)pyrimidin-4-yl)-N-(5-(6-ethoxypyrazin-2-yl)pyridin-2-yl)tetrahydro-2H-pyran-4-carboxamide:



7. The compound, pharmaceutically acceptable salt and/or solvate thereof according to any one of claims 2 to 6 for use as a medicament.
8. The compound, pharmaceutically acceptable salt and/or solvate thereof according to claim 7, for use in the reduction of T-cell and/or B-cell proliferation in a subject.
- 5 9. Use of a compound, pharmaceutically acceptable salt and/or solvate thereof according to any one of claims 2 to 6 in the treatment or prophylaxis of: inflammatory skin diseases such as psoriasis or lichen planus; acute and/or chronic GVHD such as steroid resistant acute GVHD; acute lymphoproliferative syndrome (ALPS); systemic lupus erythematosus, lupus nephritis or cutaneous lupus; or transplantation; or for use in the treatment or prophylaxis of
- 10 myasthenia gravis, multiple sclerosis or scleroderma/systemic sclerosis; or for use in enhancing recovery from vascular injury or surgery and reducing morbidity and mortality associated with neointima and restenosis in a subject.
10. Use of a compound, pharmaceutically acceptable salt and/or solvate thereof according to any one of claims 2 to 6 in the treatment of cancer.
- 15 11. The use according to claim 10, wherein the cancer is a haematological cancer.
12. The use according to claim 11, wherein the haematological cancer is selected from the group consisting of Acute myeloid leukemia, Angioimmunoblastic T-cell lymphoma, B-cell acute lymphoblastic leukemia, Sweet Syndrome, T-cell Non-Hodgkins lymphoma (including natural killer/T-cell lymphoma, adult T-cell leukaemia/lymphoma, enteropathy type
- 20 T-cell lymphoma, hepatosplenic T-cell lymphoma and cutaneous T-cell lymphoma), T-cell acute lymphoblastic leukemia, B-cell Non-Hodgkins lymphoma (including Burkitt lymphoma, diffuse large B-cell lymphoma, Follicular lymphoma, Mantle cell lymphoma, Marginal Zone lymphoma), Hairy Cell Leukemia, Hodgkin lymphoma, Lymphoblastic lymphoma, Lymphoplasmacytic lymphoma, Mucosa-associated lymphoid tissue lymphoma, Multiple
- 25 myeloma, Myelodysplastic syndrome, Plasma cell myeloma, Primary mediastinal large B-cell lymphoma, chronic myeloproliferative disorders (such as chronic myeloid leukemia, primary myelofibrosis, essential thrombocytemia, polycythemia vera) and chronic lymphocytic leukemia.
13. The use according to claim 10, wherein the cancer is a non-haematological cancer.
14. The use according to claim 13, wherein the non-haematological cancer is selected from
- 30 the group consisting of bladder cancer, breast, melanoma, neuroblastoma, malignant pleural mesothelioma, and sarcoma.
15. The compound, pharmaceutically acceptable salt and/or solvate thereof according to claim 7 or claim 8, for use in a human subject.
16. The use according to any one of claims 9 to 14, for use in a human subject.
- 35 17. A pharmaceutical composition comprising the compound, pharmaceutically acceptable salt and/or solvate thereof according to any one of claims 2 to 6.
18. A compound of formula (II) which is:



wherein R is H or C₁₋₆alkyl, or salts thereof.