The Claims defining the Invention are as follows:

1. A JAK1 selective inhibitor selected from:

3-[1-(6-chloropyridin-2-yl)pyrrolidin-3-yl]-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]propanenitrile;

3-(1-[1,3]oxazolo[5,4-b]pyridin-2-ylpyrrolidin-3-yl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]propanenitrile;

4-[(4-{3-cyano-2-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]propyl}piperazin-1-yl)carbonyl]-3-fluorobenzonitrile;

4-[(4-{3-cyano-2-[3-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrrol-1-yl]propyl}piperazin-1-yl)carbonyl]-3-fluorobenzonitrile;

{1-{1-[3-Fluoro-2-(trifluoromethyl)isonicotinoyl]piperidin-4-yl}-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile;

4-{3-(cyanomethyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-1-yl}-N-[4-fluoro-2-(trifluoromethyl)phenyl]piperidine-1-carboxamide;

[3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]-1-(1-{[2-(trifluoromethyl)pyrimidin-4-yl]carbonyl}piperidin-4-yl)azetidin-3-yl]acetonitrile;

[*trans*-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]-3-(4-{[2-(trifluoromethyl)pyrimidin-4-yl]carbonyl}piperazin-1-yl)cyclobutyl]acetonitrile;

{*trans*-3-(4-{[4-[(3-hydroxyazetidin-1-yl)methyl]-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile;

{*trans*-3-(4-{[4-{[(2S)-2-(hydroxymethyl)pyrrolidin-1-yl]methyl}-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile;

{*trans*-3-(4-{[4-{[(2R)-2-(hydroxymethyl)pyrrolidin-1-yl]methyl}-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile;

4-(4-{3-[(dimethylamino)methyl]-5-fluorophenoxy}piperidin-1-yl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]butanenitrile;

5-{3-(cyanomethyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-1-yl}-N-isopropylpyrazine-2-carboxamide;

4-{3-(cyanomethyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-1-yl}-2,5-difluoro-N-[(1S)-2,2,2-trifluoro-1-methylethyl]benzamide;

5-{3-(cyanomethyl)-3-[4-(1H-pyrrolo[2,3-b]pyridin-4-yl)-1H-pyrazol-1-yl]azetidin-1-yl}-N-isopropylpyrazine-2-carboxamide;

{1-(*cis*-4-{[6-(2-hydroxyethyl)-2-(trifluoromethyl)pyrimidin-4-yl]oxy}cyclohexyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile;

{1-(*cis*-4-{[4-[(ethylamino)methyl]-6-(trifluoromethyl)pyridin-2-yl]oxy}cyclohexyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile;

{1-(*cis*-4-{[4-(1-hydroxy-1-methylethyl)-6-(trifluoromethyl)pyridin-2-yl]oxy}cyclohexyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile;

{1-(*cis*-4-{[4-{[(3R)-3-hydroxypyrrolidin-1-yl]methyl}-6-(trifluoromethyl)pyridin-2-yl]oxy}cyclohexyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile;

{1-(*cis*-4-{[4-{[(3S)-3-hydroxypyrrolidin-1-yl]methyl}-6-(trifluoromethyl)pyridin-2-yl]oxy}cyclohexyl)-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile;

{*trans*-3-(4-{[4-({[(1S)-2-hydroxy-1-methylethyl]amino}methyl)-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile;

{*trans*-3-(4-{[4-({[(2R)-2-hydroxypropyl]amino}methyl)-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile;

{*trans*-3-(4-{[4-({[(2S)-2-hydroxypropyl]amino}methyl)-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile; and

{*trans*-3-(4-{[4-(2-hydroxyethyl)-6-(trifluoromethyl)pyridin-2-yl]oxy}piperidin-1-yl)-1-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]cyclobutyl}acetonitrile;

or a pharmaceutically acceptable salt thereof,

for use in a method of treating a myelodysplastic syndrome in a patient in need thereof, the method comprising administering to said patient a therapeutically effective amount of the JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof.

2. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1, wherein the JAK1 selective inhibitor is selective for JAK1 over JAK2, JAK3, and TYK2.

3. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is refractory cytopenia with unilineage dysplasia (RCUD).

4. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is refractory anemia with ring sideroblasts (RARS).

5. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is refractory cytopenia with multilineage dysplasia.

6. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is refractory anemia with excess blasts-1 (RAEB-1).

7. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is refractory anemia with excess blasts-2 (RAEB-2).

8. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is myelodysplastic syndrome, unclassified (MDS-U).

9. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is myelodysplastic syndrome associated with isolated del(5q).

10. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 1 or 2, wherein said myelodysplastic syndrome is refractory to erythropoiesis-stimulating agents.

11. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to any one of claims 1 to 10, wherein said patient is red blood cell transfusion dependent.

12. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to any one of claims 1 to 11, wherein the method further comprises administering an additional therapeutic agent selected from an IMiD, an anti-IL-6 agent, an anti–TNF-α agent, a hypomethylating agent, or a biologic response modifier (BRM).

13. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 12, wherein said anti–TNF-α agent is selected from infliximab and etanercept.

14. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 12, wherein said hypomethylating agent is a DNA methyltransferase inhibitor.

15. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 14, wherein said DNA methyl transferase inhibitor is selected from 5 azacytidine and decitabine.

16. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 12, wherein said IMiD is selected from thalidomide, lenalidomide, pomalidomide, CC-11006, and CC-10015.

17. The JAK1 selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to any one of claims 1 to 11, wherein the method further comprises administering an additional therapeutic agent selected from anti-thymocyte globulin, recombinant human granulocyte colony-stimulating factor (G CSF), granulocyte-monocyte CSF (GM-CSF), a erythropoiesis-stimulating agent (ESA), and cyclosporine.

18. A JAKl selective inhibitor which is {1-{1-[3-Fluoro-2-(trifluoromethyl)isonicotinoyl]piperidin-4-yl}-3-[4-(7H-pyrrolo[2,3-d]pyrimidin-4-yl)-1H-pyrazol-1-yl]azetidin-3-yl}acetonitrile, or a pharmaceutically acceptable salt thereof, for use in a method of treating a myelodysplastic syndrome in a patient in need thereof.

19. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is refractory cytopenia with unilineage dysplasia (RCUD).

20. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is refractory anemia with ring sideroblasts (RARS).

21. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is refractory cytopenia with multilineage dysplasia.

22. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is refractory anemia with excess blasts-1 (RAEB-1).

23. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is refractory anemia with excess blasts-2 (RAEB-2).

24. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is myelodysplastic syndrome, unclassified (MDS-U).

25. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is myelodysplastic syndrome associated with isolated del(5q).

26. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 18, wherein said myelodysplastic syndrome is refractory to erythropoiesis-stimulating agents.

27. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to any one of claims 18 to 26, wherein said patient is red blood cell transfusion dependent.

28. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to any one of claims 18 to 27, wherein the method further comprises administering an additional therapeutic agent selected from an IMiD, an anti-IL-6 agent, an anti-TNF-α agent, a hypomethylating agent, or a biologic response modifier (BRM).

29. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 28, wherein said anti-TNF-α agent is selected from infliximab and etanercept

30. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 28, wherein said hypomethylating agent is a DNA methyltransferase inhibitor.

31. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 30, wherein said DNA methyl transferase inhibitor is selected from 5 azacytidine and decitabine.

32. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to claim 28, wherein said IMiD is selected from thalidomide, lenalidomide, pomalidomide, CC-11006, and CC-10015

33. The JAKl selective inhibitor, or a pharmaceutically acceptable salt thereof, for use according to any one of claims 18 to 27, wherein the method further comprises administering an additional therapeutic agent selected from anti-thymocyte globulin, recombinant human granulocyte colony-stimulating factor (G CSF), granulocyte-monocyte CSF (GM-CSF), a erythropoiesis-stimulating agent (ESA), and cyclosporine.