CLAIMS:

1. A method for treating a subject experiencing anemia, comprising administering to the subject an amount of N-(cyanomethyl)-4-[2-[[4-(4-morpholinyl)phenyl]amino]-4-pyrimidinyl]-benzamide [CYT387] or a related compound effective to maintain or elevate the hemoglobin level.

2. The method according to claim 1, wherein the subject experiencing anemia is afflicted with a myeloproliferative disorder.

3. The method according to claim 2, wherein the subject experiencing anemia is afflicted with primary myelofibrosis.

4. The method according to claim 3, wherein the subject experiencing anemia is afflicted with primary myelofibrosis secondary to polycythemia vera.

5. The method according to claim 3, wherein the subject experiencing anemia is afflicted with primary myelofibrosis secondary to essential thrombocythemia.

6. The method according to claim 2, wherein the subject experiencing anemia is afflicted with myelodisplastic syndrome.

7. The method according to any one of claims 1-6, wherein the compound is CYT387.

8. The method according to claim 7, wherein the compound is the dihydrochloride salt of CYT387.

9. The method according to any one of claims 1-8, wherein the anemic subject is not afflicted with a myeloproliferative disorder.

10. The use of CYT387 to treat anemia.

11. An article of manufacture, comprising a container comprising CYT387 in an amount useful to treat anemia and, associated with said container, a label indicating treatment of a subject afflicted with anemia.

12. A kit comprising a container comprising CYT387 in an amount useful to treat anemia and, in association therewith, printed instruction teaching a method for said treatment.

13. An improved method for treating a subject having, or at risk for, a medical condition for which a JAK inhibitor is indicated, the method comprising the steps of (1) selecting, for treatment, a subject that meets at least one of the following criteria:

(i) prior therapy with a drug selected from thalidomide, lenalidomide, pomalidomide and a JAK inhibitor other than CYT387;

(ii) a clinical criterion selected from one or both of (1) larger spleen size and (2) lower percentage of circulating blasts;

(iii) a biochemical marker criterion selected from one or more of (1) an increased level of at least one protein selected from EGF, TNF-α, G-CSF, IFN-a, MIP-1β, HGF, MIG, and VEGF; (2) a decreased level of eotaxin; and (3) an altered level of at least one protein selected from EPO, hepcidin and BMP-2;

and then (2) administering to the selected subject a treatment-effective amount of CYT387, whereby the treated subject exhibits an anemia response and/or a spleen response that is improved relative to a subject not meeting any of said criteria.

14. The method according to claim 13, wherein the indication for which the JAK inhibitor is indicated is a myeloproliferative neoplasm.

15. The method according to claim 14, wherein the myeloproliferative neoplasm is primary myelofibrosis.

16. The method according to claim 13, wherein the myeloproliferative neoplasm is primary myelofibrosis secondary to polycythemia vera.

17. The method according to claim 13, wherein the myeloproliferative neoplasm is primary myelofibrosis secondary to essential thrombocythemia.

18. The method according to claims 13-17, comprising the preliminary step of screening said subject or a biological sample obtained therefrom to assess at least one of said criteria.

19. The method according to claim 18, wherein a biological sample obtained from said subject is screened to assess the level of at least one of said biochemical markers.

20. An article of manufacture, comprising container comprising CYT387 in an amount useful to treat MPN and, associated with said container, a label indicating treatment of a subject identified according to claim 13.

21. A kit comprising a container comprising CYT387 in an amount useful to treat MPN and, in association therewith, printed instruction teaching a method according to claim 13.

CLAIMS:

1. Use of a compound which is the dihydrochloride salt of N-(cyanomethyl)-4-[2-[[4-(4-morpholinyl)phenyl]amino]-4-pyrimidinyl]-benzamide [CYT387] in the preparation of a medicament for treating a subject experiencing anemia.

2. The use according to claim 1, wherein the subject experiencing anemia is afflicted with a myeloproliferative disorder.

3. The use according to claim 2, wherein the subject experiencing anemia is afflicted with primary myelofibrosis.

4. The use according to claim 3, wherein the subject experiencing anemia is afflicted with primary myelofibrosis secondary to polycythemia vera.

5. The use according to claim 3, wherein the subject experiencing anemia is afflicted with primary myelofibrosis secondary to essential thrombocythemia.

6. The use according to claim 2, wherein the subject experiencing anemia is afflicted with myelodisplastic syndrome.

7. The use according to claim 1, wherein the anemic subject is not afflicted with a myeloproliferative disorder.

8. Use of a compound which is the dihydrochloride salt of N-(cyanomethyl)-4-[2-[[4-(4-morpholinyl)phenyl]amino]-4-pyrimidinyl]-benzamide [CYT387] in the preparation of a medicament for treating a subject having, or at risk for, a medical condition for which a JAK inhibitor is indicated, wherein the subject selected for treatment meets at least one of the following criteria:

(i) prior therapy with a drug selected from thalidomide, lenalidomide, pomalidomide and a JAK inhibitor other than CYT387;

(ii) a clinical criterion selected from one or both of (1) larger spleen size and (2) lower percentage of circulating blasts;

(iii) a biochemical marker criterion selected from one or more of (1) an increased level of at least one protein selected from EGF, TNF-α, G-CSF, IFN-a, MIP-1β, HGF, MIG, and VEGF; (2) a decreased level of eotaxin; and (3) an altered level of at least one protein selected from EPO, hepcidin and BMP-2;

and the subject treated with a treatment-effective amount of the dihydrochloride salt CYT387 exhibits an anemia response and/or a spleen response that is improved relative to a subject not meeting any of said criteria.

9. The use according to claim 8, wherein the indication for which the JAK inhibitor is indicated is a myeloproliferative neoplasm.

10. The use according to claim 9, wherein the myeloproliferative neoplasm is primary myelofibrosis.

11. The use according to claim 10, wherein the myeloproliferative neoplasm is primary myelofibrosis secondary to polycythemia vera.

12. The use according to claim 10, wherein the myeloproliferative neoplasm is primary myelofibrosis secondary to essential thrombocythemia.

13. The use according to any one of claims 8 to 12, comprising a preliminary step of screening said subject or a biological sample obtained therefrom to assess at least one of said criteria.

14. The use according to claim 13, wherein a biological sample obtained from said subject is screened to assess the level of at least one of said biochemical markers.

15. Use of a compound according to claim 1, substantially as hereinbefore described.

16. Use of a compound according to claim 8, substantially as hereinbefore described.