CLAIMS

1. A method of identifying a subject who is likely to be responsive to treatment with an iron chelator, the method comprising detecting pirin protein or mRNA in a sample obtained from the subject, wherein an increased level of pirin protein or mRNA as compared to a reference indicates that the subject is likely to be responsive to treatment with an iron chelator, wherein the subject is suffering from cancer or hemochromatosis.

2. The method of claim 1, wherein the method further comprises detecting iron in the sample, wherein an increased level of iron as compared to a reference indicates that the subject is likely to be responsive to treatment with the iron chelator, optionally wherein the iron in the sample is Fe^{2+} and/or Fe^{3+}.

3. The method of claim 1 or 2, wherein the iron chelator is deferasirox, deferoxamine, or deferiprone.

4. The method of any one of claims 1 to 3, wherein the cancer is one that is characterized as having high telomerase activity, optionally wherein the method further comprises detecting telomerase activity in the sample.

5. The method of any one of claims 1 to 4, wherein the cancer is colorectal, liver, breast, lung, melanoma or cervical cancer.

6. The method of claim 5, wherein the colorectal cancer is of a consensus molecular subgroup 3 (CMS3) subtype.

7. The method of any one of claims 1 to 6, wherein the sample is a cancer sample.

8. The method of any one of claims 1 to 7, wherein an increased level of pirin as compared to a reference indicates that the subject is unsuitable for treatment with iron supplementation.

9. The method of any one of claims 1 to 8, wherein an effective amount of an iron chelator is to be administered to the subject found likely to be responsive to treatment with the iron chelator.

10. The method of any one of claims 1 to 8, wherein an effective amount of a pirin inhibitor is to be administered to the subject found likely to be responsive to treatment with the iron chelator.

11. A method of predicting the prognosis of a subject following treatment with an iron chelator, the method comprising detecting pirin mRNA or protein in a sample obtained from the subject, wherein an increased level of pirin mRNA or protein as compared to a reference provides an indication of the prognosis associated with relief, reduction or alleviation of one or more symptoms in the subject following treatment with the iron chelator, wherein the subject is suffering from cancer or hemochromatosis.

12. A method of selecting a subject for treatment with iron supplementation, the method comprising selecting a subject based on an increased level of pirin protein or mRNA in a sample obtained from the subject, wherein an increased level of pirin protein or mRNA as compared to a reference indicates that the subject is likely to be unsuitable for treatment with the iron supplementation, wherein the subject is suffering from cancer and/or anaemia.

13. A method of identifying a subject who is unsuitable for treatment with iron supplementation, the method comprising detecting an increased level of pirin protein or mRNA in a sample obtained from the subject, wherein an increased level of pirin protein or mRNA as compared to a reference indicates that the subject is unsuitable for treatment with iron supplementation, wherein the subject is suffering from cancer and/or anaemia.

14. The method of claim 13, wherein the subject found unsuitable for treatment with iron supplementation is to be treated with an iron chelator.

15. Use of a pirin inhibitor in the manufacture of a medicament for treating cancer in a subject.

16. The use of claim 15, wherein the pirin inhibitor is SP2509 or a derivative thereof.

17. The use of claim 15 or 16, wherein the medicament is to be administered with an iron chelator, optionally wherein the iron chelator is deferasirox, deferoxamine, or deferiprone.

18. A method of identifying a cancer subject who is likely to be responsive to treatment with a pirin inhibitor, the method comprising detecting pirin protein or mRNA in a sample obtained from the subject, wherein an increased level of pirin protein or mRNA as compared to a reference indicates that the subject is likely to be responsive to treatment with the pirin inhibitor.

19. Use of an iron chelator in the manufacture of a medicament for sensitizing a cancer subject to treatment with a pirin inhibitor.

20. A method of identifying a cancer cell that has high telomerase activity, the method comprising detecting pirin in the cancer cell, wherein an increased level of pirin protein or mRNA as compared to a reference indicates that the cancer cell is likely to have high telomerase activity.