CLAIMS

1. Use of an isolated antibody that inhibits binding between CD47 and SIRPα in the manufacture of a medicament for administration with a hypomethylating agent for the treatment of a hematopoietic disorder in a subject, wherein the subject has at least one p53 mutation.

2. The use of claim 1, wherein the antibody is an anti-CD47 antibody or an anti-SIRPα antibody.

3. The use of claim 1 or 2, wherein the hypomethylating agent is azacitidine.

4. The use of any one of claims 1 to 3, wherein the hematopoietic disorder is myelodysplastic syndrome (MDS).

5. The use of any one of claims 1to 3, wherein the hematopoietic disorder is acute myeloid leukemia (AML).

6. The use of any one of claims 1 to 5, wherein subject is relapsed or refractory to at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or greater than 10 prior lines of cancer therapy.

7. The use of any one of claims 1 to 6, wherein the anti-CD47 antibody comprises Hu5F9-G4.

8. The use of any one of claims 1 to 6, wherein the anti-CD47 antibody consists of Hu5F9-G4.

9. The use of any one of claims 1to 6, wherein the anti-SIRPα antibody comprises at least one of Hu1H9-G1, Hu1H9-G4, Hu3C2-G1, Hu3C2-G4, 9B11-G1, 9B11-G4, 7E11-G1, and 7E11-G4.

10. The use of any one of claims 1 to 6, wherein the anti-SIRPα antibody consists of an antibody selected from the group consisting of Hu1H9-G1, Hu1H9-G4, Hu3C2-G1, Hu3C2-G4, 9B11-G1, 9B11-G4, 7E11-G1, and 7E11-G4.

11. The use of any one of claims 1 to 10, wherein the antibody is formulated for administration intravenously.

12. The use of any one of claims 1 to 11, wherein the hypomethylating agent is formulated for administration intravenously, subcutaneously, or orally.

13. The use of any one claims 1 to 12, wherein the antibody and the hypomethylating agent reduce the p53 mutational burden in the subject relative to the p53 mutational burden present in the subject prior to the administration.

14. The use of any one claims 1 to 13, wherein the antibody and the hypomethylating agent reduce the level of leukemia stem cells present in the bone marrow of the subject.

15. The use of any one of claims 1 to 8 or 11 to 14, wherein the treatment comprises at least two distinct cycles of four weeks each, wherein the first cycle comprises (1) a priming dose of the anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of the anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7; and the second cycle comprises (1) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7.

16. The use of claim 15, wherein the second cycle is repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed.

17. The use of claim 15 or 16, wherein the treatement comprises a further third cycle of four weeks, wherein the third cycle comprises (1) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7.

18. The use of claim 15 or 16, wherein the treatment comprises a further third cycle of four weeks, wherein the third cycle comprises (1) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7.

19. The use of claim 17 or 18, wherein the third cycle is repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed.

20. The use of any one of claims 1 to 19, wherein the subject is a human subject.

21. Use of an isolated antibody that inhibits binding between CD47 and SIRPα in the manufacture of a medicament for adminsitraiton with a hypomethylating agent, for the

treatment of a hematopoietic disorder in a subject, wherein prior to administration of the medicament the T cell infiltration level in the bone marrow in the subject is determined or has been determined.

22. The use of claim 21, wherein the treatement comprises at least two distinct cycles of four weeks each, wherein the first cycle comprises (1) a priming dose of the anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of the anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7; and the second cycle comprises (1) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7.

CLAIMS

1. Use of an isolated antibody that inhibits binding between CD47 and SIRPα in the manufacture of a medicament, for administration with a hypomethylating agent, for the treatment of a blood cancer or myelodysplastic syndrome (MDS) in a subject, wherein the subject has at least one p53 mutation.

2. Use of a hypomethylating agent in the manufacture of a medicament, for administration with an isolated antibody that inhibits binding between CD47 and SIRPα, for the treatment of a blood cancer or myelodysplastic syndrome (MDS) in a subject, wherein the subject has at least one p53 mutation.

3. Use of an isolated antibody that inhibits binding between CD47 and SIRPα, and a hypomethylating agent, in the manufacture of a medicament, for the treatment of a blood cancer or myelodysplastic syndrome (MDS) in a subject, wherein the subject has at least one p53 mutation.

4. The use of any one of claims 1 to 3, wherein

a. the isolated antibody comprises the VH and VL CDR sequences set forth in SEQ ID NOs: 52-57 and 133 according to the Kabat CDR definition, or the VH and VL CDR sequences set forth in SEQ ID NOs: 134-139 according to the IMGT CDR definition, or the VH and VL sequences set forth in SEQ ID NOs: 140-145 according to the Chothia CDR definition, or the VH and VL sequences set forth in SEQ ID NOs: 146-151 according to the Honegger CDR definition, optionally wherein the isolated antibody comprises the VH sequence set forth in SEQ ID NO: 131 and the VL sequence set forth in SEQ ID NO: 132, further optionally wherein the isolated antibody comprises the heavy chain sequence set forth in SEQ ID NO: 50 and the light chain sequence set forth in SEQ ID NO: 51; or

b. the isolated antibody comprises a CDR-H1 comprising the sequence set forth in SEQ ID NO:1; a CDR-H2 comprising the sequence set forth in SEQ ID NO:2; a CDR-H3 comprising the sequence set forth in SEQ ID NO:3; a CDR-L1 comprising the sequence set forth in SEQ ID NO:4; a CDR-L2 comprising the sequence set forth in SEQ ID NO:5; and a CDR-L3 comprising the

sequence set forth in SEQ ID NO:6, optionally wherein the isolated antibody comprises : a VH sequence of SEQ ID NO:7 and a VL sequence of SEQ ID NO:8, further optionally wherein the isolated antibody comprises a heavy chain of SEQ ID NO:17 and a light chain of SEQ ID NO:18; or

c. the isolated antibody comprises a CDR-H1 comprising the sequence set forth in SEQ ID NO:9; a CDR-H2 comprising the sequence set forth in SEQ ID NO:10; a CDR-H3 comprising the sequence set forth in SEQ ID NO:11; a CDR-L1 comprising the sequence set forth in SEQ ID NO:12; a CDR-L2 comprising the sequence set forth in SEQ ID NO:13; and a CDR-L3 comprising the sequence set forth in SEQ ID NO:14, optionally wherein the isolated antibody comprises a VH sequence of SEQ ID NO:15 and a VL sequence of SEQ ID NO:16, further optionally wherein the isolated antibody comprises a heavy chain of SEQ ID NO:19 and a light chain of SEQ ID NO:20; or

d. the isolated antibody comprises a CDR-H1 comprising the sequence set forth in SEQ ID NO:21; a CDR-H2 comprising the sequence set forth in SEQ ID NO:22; a CDR-H3 comprising the sequence set forth in SEQ ID NO:23; a CDR-L1 comprising the sequence set forth in SEQ ID NO:24; a CDR-L2 comprising the sequence set forth in SEQ ID NO:25; and a CDR-L3 comprising the sequence set forth in SEQ ID NO:26, optionally wherein the isolated antibody comprises a VH sequence of SEQ ID NO:27 and a VL sequence of SEQ ID NO:28; or

e. the isolated antibody comprises a CDR-H1 comprising the sequence set forth in SEQ ID NO:29; a CDR-H2 comprising the sequence set forth in SEQ ID NO:30; a CDR-H3 comprising the sequence set forth in SEQ ID NO:31; a CDR-L1 comprising the sequence set forth in SEQ ID NO:32; a CDR-L2 comprising the sequence set forth in SEQ ID NO:33; and a CDR-L3 comprising the sequence set forth in SEQ ID NO:34, optionally wherein the isolated antibody comprises a VH sequence of SEQ ID NO:35 and a VL sequence of SEQ ID NO:36; or

f. the subject is determined to have a p53 mutation or has been determined to have a p53 mutation, optionally wherein determining the presence of at least one p53 mutation comprises a DNA assay, an RNA assay or a protein assay; and/or

g. the antibody is an anti-CD47 antibody or an anti-SIRPα antibody; and/or

h. the anti-CD47 antibody is to be administered to the subject at a dose of greater than or equal to 10 mg of antibody per kg of body weight; and/or

i. the hypomethylating agent is azacitidine or decitabine.

5. The use according to claim 4 wherein the hypomethylating agent is azacitidine.

6. The use according to any one of claims 1 to 5 wherein the antibody and the hypomethylating agent are to be administered within a period of time to produce an additive or synergistic effect on depletion of cancer cells in the subject.

7. The use of any one of claims 1 to 6, wherein the blood cancer is acute myeloid leukemia (AML).

8. The use of any one of claims 1 to 7, wherein

a. the p53 mutation comprises a missense mutation, a nonsense mutation, a frameshift mutation, an intronic mutation, a truncating mutation, a mutation in the DNA binding domain, or a mutation in the tetramerization domain, optionally wherein the p53 mutation comprises a mutation in the DNA binding domain; and/or

b. the subject is relapsed or refractory to at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or greater than 10 prior lines of cancer therapy; and/or

c. the anti-CD47 antibody comprises Hu5F9-G4 or the anti-CD47 antibody consists of Hu5F9-G4; and/or

the anti-SIRPα antibody comprises at least one of Hu1H9-G1, Hu1H9-G4, Hu3C2-G1, Hu3C2-G4, 9B11-G1, 9B11-G4, 7E11-G1, and 7E11-G4 or

the anti-SIRPα antibody consists of an antibody selected from the group consisting of Hu1H9-G1, Hu1H9-G4, Hu3C2-G1, Hu3C2-G4, 9B11-G1, 9B11-G4, 7E11-G1, and 7E11-G4; and/or

the antibody is formulated for administration intravenously; and/or

the hypomethylating agent is formulated for administration intravenously, subcutaneously, or orally.

9. The use of any one of claims 1 to 8 wherein

the anti-CD47 antibody is to be administered to the subject in a first cycle comprising a priming dose of at least 1 mg of antibody per kg of body weight on days 1 and 4, followed by a dose of at least 15 mg of antibody per kg of body weight on day 8, and followed by a dose of at least 30 mg of antibody per kg of body weight on days 15 and 22.

10. The use according to claim 9 wherein the first cycle further comprises a loading dose of at least 30 mg of antibody per kg of body weight on day 11.

11. The use according to claim 9 or 10 wherein

i. the first cycle is 4 weeks in duration; and/or

ii. the azacitidine is to be administered to the subject at a dose of at least 75 mg/m^2 on each of days 1-7 of the first cycle; or

iii. the azacitidine is to be administered to the subject at a dose of at least 75 mg/m^2 on each of days 1-5 of the first cycle.

12. The use according to any one of claims 9-11 wherein

iv. the anti-CD47 antibody is to be administered to the subject in a second cycle comprising a dose of at least 30 mg of antibody per kg of body weight once every four weeks; or

v. the anti-CD47 antibody is to be administered to the subject in a second cycle comprising a dose of at least 30 mg of antibody per kg of body weight once every two weeks; or

vi. the anti-CD47 antibody is to be administered to the subject in a second cycle comprising a dose of at least 30 mg of antibody per kg of body weight once every week, optionally wherein the second cycle is 4 weeks in duration; or

vii. the anti-CD47 antibody is to be administered to the subject in a second cycle comprising a dose of at least 30 mg of antibody per kg of body weight

twice weekly, optionally wherein the second cycle is 4 weeks in duration; and/or

viii. the anti-CD47 antibody is to be administered to the subject in a third cycle comprising a dose of at least 30 mg of antibody per kg of body weight once every four weeks.

13. The use of any one of claims **Error! Reference source not found.~~Error! Reference source not found.~~**-12, wherein:

a. the anti-CD47 antibody is to be administered to the subject in a third cycle comprising a dose of at least 30 mg of antibody per kg of body weight once every two weeks; or

b. the anti-CD47 antibody is to be administered to the subject in a third cycle comprising a dose of at least 30 mg of antibody per kg of body weight once every week; or

c. the anti-CD47 antibody is to be administered to the subject in a third cycle comprising a dose of at least 30 mg of antibody per kg of body weight twice weekly.

14. The use of any one of claims 1-12 wherein:

a. the anti-CD47 antibody is to be administered to the subject in a first cycle comprising a priming dose of at least 1 mg of antibody per kg of body weight on day 1, followed by a dose of at least 30 mg of antibody per kg of body weight on days 8, 15, and 22; and/or

b. the azacitidine is to be administered to the subject at a dose of at least 75 mg/m^2 on each of days 1-7 of the second cycle; or

c. the azacitidine is to be administered to the subject at a dose of at least 75 mg/m^2 on each of days 1-5 of the second cycle; or

d. the anti-CD47 antibody is to be administered to the subject in a third cycle comprising a dose of at least 60 mg of antibody per kg of body weight once every four weeks; and/or

e. the third cycle is 4 weeks in duration; and/or

f. the azacitidine is to be administered to the subject at a dose of at least 75 mg/m^2 on each of days 1-7 of the third cycle; or

g. the azacitidine is to be administered to the subject at a dose of at least 75 mg/m^2 on each of days 1-5 of the third cycle.

15. The use of claim 14 wherein in (a), the anti-CD47 antibody is to be administered to the subject in a second cycle comprising a dose of at least 60 mg of antibody per kg of body weight once every two weeks on day 1 and 15, wherein the second cycle is 4 weeks in duration.

16. The use of any one of claims 1 to 15, wherein

a. the subject is or has been determined to be refractory to azacitidine, decitabine, or cytarabine prior to administration of the antibody and the use results in a reversal of refractoriness to azacitidine, decitabine, or cytarabine; and/or

b. the antibody and the hypomethylating agent reduce the p53 mutational burden in the subject relative to the p53 mutational burden present in the subject prior to the administration and/or

c. the p53 mutational burden in the subject after at least one cycle of administration of the antibody and the hypomethylating agent is to be assessed; and/or

d. the antibody and the hypomethylating agent reduce the level of leukemia stem cells present in the bone marrow of the subject as compared to the level of leukemia stem cells present in the bone marrow of the subject before the administration.

17. The use according to claim 16 wherein at least an additional cycle of the antibody and the hypomethylating agent is to be administered if either or both the p53 mutational burden has decreased or the amount of leukemia stem cells has decreased.

18. The use of any one of claims 1 to 17 wherein:

a. the subject is a human subject, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per

kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine is to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4;

and/or, wherein:

A. the subject is a human subject having a myelodysplastic syndrome (MDS), wherein the subject has at least one p53 mutation, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a

dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

iv. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) administering a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

B. wherein the subject is a human subject having acute myeloid leukemia (AML), wherein the subject has at least one p53 mutation and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming

dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprises (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

iv. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the

subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

b. the subject is a human subject, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 15 and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed, optionally wherein a third cycle of four weeks comprises (1) a dose of at least 60 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; and/or

ii. a third cycle of four weeks comprising (1) administering a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) administering a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be

administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4;

and/or, wherein:

A. the subject is a human subject having a myelodysplastic syndrome (MDS), wherein the subject has at least one p53 mutation, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

iv. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

B. wherein the subject is a human subject having acute myeloid leukemia (AML), wherein the subject has at least one p53 mutation and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be

repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

iv. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

c. the subject is a human subject, and anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1, (2) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on Days 8, 15, and 22, and (3) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 60 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, and/or wherein:

A. the subject is a human subject having a myelodysplastic syndrome (MDS), wherein the subject has at least one p53 mutation, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body

weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

iv. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

B. wherein the subject is a human subject having acute myeloid leukemia (AML), wherein the subject has at least one p53 mutation and anti-CD47

antibody and the azacitidine are to be administered to the subject for at least two distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the second cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every four weeks on day 1, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; or

iii. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

iv. a third cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22 and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, further optionally wherein the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47

antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

d. the subject is a human subject, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least three distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47 antibody in the range 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the third cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a fourth cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein the fourth cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4; or

e. the subject is a human subject, and the anti-CD47 antibody and the azacitidine are to be administered to the subject for at least three distinct cycles of four weeks each, the first cycle comprising (1) a priming dose of anti-CD47

antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2) a dose of at least 15 mg of anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight on days 15 and 22, and (4) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; the second cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7; and the third cycle comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every week on days 1, and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein:

i. the third cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; and/or

ii. a fourth cycle of four weeks comprising (1) a dose of at least 30 mg of anti-CD47 antibody per kg of body weight once every two weeks on days 1 and 15, and (2) a dose of at least 75 mg/m^2 of azacitidine on each of days 1-7, optionally wherein the fourth cycle is to be repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed; optionally the anti-CD47 antibody and azacitidine are to be administered to the subject until the subject loses a clinical benefit; optionally the anti-CD47 antibody is Hu5F9-G4.

19. Use of an isolated antibody that inhibits binding between CD47 and SIRPα in the manufacture of a medicament for administration with a hypomethylating agent, for the treatment of a blood cancer or myelodysplastic syndrome (MDS) in a subject, wherein prior to administration of the medicament the T cell infiltration level in the bone marrow in the subject is determined or has been determined, and wherein the subject has at least one p53 mutation.

20. The use of claim 21, wherein the treatment comprises at least two distinct cycles of four weeks each, wherein the first cycle comprises (1) a priming dose of the anti-CD47 antibody in the range of 1 mg to 10 mg of antibody per kg of body weight on Day 1 and 4, (2)

a dose of at least 15 mg of the anti-CD47 antibody per kg of body weight on day 8, (3) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight on days 11, 15, and 22, and (4) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7; and the second cycle comprises (1) a dose of at least 30 mg of the anti-CD47 antibody per kg of body weight once every week on days 1, 8, 15, and 22, and (2) a dose of at least 75 mg/m^2 of the hypomethylating agent on each of days 1-7.