CLAIMS

1. Use of an anti-CD47 agent that inhibits binding between CD47 and SIRPα in the manufacture of a medicament, for administration with an anti-CD20 antibody, for the treatment of a blood cancer in a subject, wherein B-cells are determined or have been determined to be present in the subject prior to administration of the medicament and anti-CD20 antibody, wherein the determination that B-cells are present in the subject comprises determining or having determined that the subject has CD19+ B-cells and wherein the blood cancer is a CD20+ cancer..

2. Use of an anti-CD20 antibody in the manufacture of a medicament, for administration with an anti-CD47 agent that inhibits binding between CD47 and SIRPα, for the treatment of a blood cancer in a subject prior to administration of the medicament and anti-CD47 agent, wherein B-cells are determined or have been determined to be present in the subject, wherein the determination that B-cells are present in the subject comprises determining or having determined that the subject has CD19+ B-cells and wherein the blood cancer is a CD20+ cancer.

3. Use of an anti-CD47 agent that inhibits binding between CD47 and SIRPα and an anti-CD20 antibody in the manufacture of a medicament for the treatment of a blood cancer in a subject prior to administration of the medicament, wherein B-cells are determined or have been determined to be present in the subject, wherein the determination that B-cells are present in the subject comprises determining or having determined that the subject has CD19+ B-cells and wherein the blood cancer is a CD20+ cancer.

4. The use of any one of claims 1-3, wherein determining or having determined that the subject has CD19+ B-cells comprises determining or having determined that the subject has above a threshold amount of CD19+ B-cells.

5. The use of claim 4, wherein the threshold amount of CD19+ B-cells is:

(a) a limit of detection for an assay used to determine the presence of the CD19+ B-cells; or

(b) at least five percent of CD19+ B-cells out of a total population of lymphocytes; or

(c) at least 1 CD19+ B-cell per microliter; or

(d) at least 40 CD19+ B-cells per microliter.

6. The use of any one of claims 1-5, wherein the determination that B-cells are present in the subject further comprises determining or having determined that the subject has CD20+ B-cells.

7. The use of claim 6, wherein determining or having determined that the subject has CD20+ B-cells comprises determining or having determined that the subject has above a threshold amount of CD20+ B-cells.

8. The use of claim 7, wherein the threshold amount of CD20+ B-cells is:

(a) a limit of detection for an assay used to determine the presence of the CD20+ B-cells;

(b) at least five percent of CD20+ B-cells out of a total population of lymphocytes;

(c) at least 1 CD20+ B-cell per microliter; or

(d) at least 40 CD20+ B-cells per microliter.

9. The use of any one of claims 1-8, wherein the determination that B-cells are present in the subject further comprises determining or having determined that the subject previously received an anti-CD20 therapy more than a threshold amount of time ago.

10. The use of claim 9, wherein the threshold amount of time is:

(a) at least 4 weeks; or

(b) at least 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, or 28 weeks.

11. The use of any one of claims 1-8, wherein the determination that B-cells are present in the subject comprises determining or having determined an absence of an anti-CD20 therapy in the subject.

12. The use of claim 11, wherein the anti-CD20 therapy comprises rituximab.

13. The use of any one of claims 1-8, wherein determining or having determined an absence of the anti-CD20 therapy in the subject comprises determining or having determined that the subject has below a threshold concentration of the anti-CD20 therapy.

14. The use of claim 13, wherein the threshold concentration of the anti-CD20 therapy is a limit of quantitation of a detection assay used to detect the presence of the anti-CD20 therapy.

15. The use of claim 14, wherein the detection assay used to detect the presence of the anti-CD20 therapy is one of an immunoassay, ELIspot, fluorospot, flow cytometry based assay, Western blot, LC mass spectrometry, or surface plasmon resonance.

16. The use of any one of claims 1-15, wherein B-cells are determined or have been determined to be present in the subject using a sample obtained from the subject.

17. The use of claim 16, wherein the sample obtained from the subject is a peripheral blood sample.

18. The use of any one of claims 1-17, wherein the anti-CD47 agent comprises an isolated antibody that inhibits binding between CD47 and SIRPα.

19. The use of any one of the claims 1-18, wherein the anti-CD47 agent comprises:

(a) an anti-CD47 antibody or an anti-SIRPα antibody;

(b) magrolimab (Hu5F9-G4);

(c) at least one of Hu1H9-G1, Hu1H9-G4, Hu3C2-G1, Hu3C2-G4, 9B11-G1, 9B11-G4, 7E11-G1, and 7E11-G4; or

(d) an anti-CD47 antibody that comprises a human IgG Fc region, *e.g.* an IgG1, IgG2a, IgG2b, IgG3, IgG4 constant region; or

(e) an anti-CD47 antibody that comprises the variable heavy and light chain sequences set forth in SEQ ID NOs: 144 and 145, respectively; or

(f) an anti-SIRPα antibody that comprises:

(i) 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 I D NO:5; and a CDR-L3 comprising the sequence set forth in SEQ ID NO:6;

(ii) 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;

(iii) 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; or

(iv) 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.

20. The use of claim 19(d), wherein the IgG constant region is an IgG4 constant region, and wherein the IgG4 hinge is stabilized by the amino acid substitution S241P.

21. The use of claim 19(e), wherein the antibody comprises the heavy and light chain sequences set forth in SEQ ID NOs: 50 and 51, respectively.

22. The use of claim 19(f), wherein the antibody comprises:

(a) a VH sequence of SEQ ID NO:7 and a VL sequence of SEQ ID NO:8;

(b) a VH sequence of SEQ ID NO:15 and a VL sequence of SEQ ID NO:16;

(c) a VH sequence of SEQ ID NO:27 and a VL sequence of SEQ ID NO:28; or

(d) a VH sequence of SEQ ID NO:35 and a VL sequence of SEQ ID NO:36.

23. The use of claim 22, wherein the antibody comprises:

(a) a heavy chain of SEQ ID NO:17 and a light chain of SEQ ID NO:18; or

(b) a heavy chain of SEQ ID NO:19 and a light chain of SEQ ID NO:20.

24. The use of any one of claims 1-23, wherein the anti-CD47 agent comprises a SIRPα reagent.

25. The use of claim 24, wherein the SIRPα reagent:

(a) comprises a portion of SIRPα that binds CD47;

(b) is a high affinity SIRPα reagent; or

(c) is a SIRPα-Fc fusion protein.

26. The use of any one of claims 1-25, wherein:

(a) the blood cancer is diffuse large B-cell lymphoma (DLBCL);

(b) the blood cancer is follicular lymphoma (FL); or

(c) the blood cancer is non-Hodgkin's lymphoma, marginal zone lymphoma, mantle cell lymphoma, chronic lymphocytic leukemia/small lymphocytic leukemia, Waldenström's macroglobulinemia/lymphoplasmacytic lymphoma, primary mediastinal B-cell lymphoma, Burkitt's lymphoma, B-cell lymphoma unclassified, B-cell acute lymphoblastic leukemia, or post-transplant lymphoproliferative disease (PTLD).

27. The use of claim 26, wherein the subject has relapsed or refractory DLBCL.

28. The use of claim 27, wherein the subject has previously been treated with at least two prior lines of therapy.

29. The use of any one of claims 1-28, wherein:

(a) the anti-CD47 agent is for administration at a dose of at least 10-30, 20-30, 10, 15, 20, or 30 mg per kg of body weight; and/or

(b) the anti-CD47 agent and/or the anti-CD20 antibody is for administration intravenously; and/or

(c) the anti-CD47 agent that inhibits binding between CD47 and SIRPα is an anti-CD47 antibody, and wherein the anti-CD47 antibody is for administration 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, and a weekly dose of at least 30 mg per kg of body weight beginning on day 8 for 4 weeks; and/or

(d) the anti-CD20 antibody is for administration to the subject at a dose of any one of 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400, 425, 450, 475, or 500 mg/m^2, and/or

(e) on days that the anti-CD47 agent and the anti-CD20 antibody are both for administeration to the subject, (i) the anti-CD47 agent is for administration to the subject prior to anti-CD20 antibody, or (ii) the anti-CD20 antibody is for administration to the subject prior to the anti-CD47 agent; and/or

(f) the active agents are administered within a period of time to produce an additive or synergistic effect on depletion of cancer cells in the host; and/or

(g) the medicament is for administration with chemotherapy.

30. The use of claim 29, wherein the anti-CD47 agent that inhibits binding between CD47 and SIRPα is for administration to the subject in a second cycle comprising a weekly dose of at least 30 mg per kg of body weight for 4 weeks.

31. The use of claim 30, wherein the anti-CD47 agent that inhibits binding between CD47 and SIRPα is for administration to the subject in a third cycle comprising an every-other-week dose of at least 30 mg per kg of body weight.

32. The use of claim 31, wherein the anti-CD47 agent that inhibits binding between CD47 and SIRPα is for administration to the subject in a subsequent cycle comprising an every-other-week dose of at least 30 mg per kg of body weight.

33. The use of claim 32, wherein the subsequent cycle is repeated as one or more additional cycles without limit or until a clinical benefit is reduced or lost or no longer observed.

34. The use of any one of claims 29-33, wherein the first, second, third and/or subsequent cycle further comprises a weekly dose of 375 mg per m^2 of body surface area of the anti-CD20 antibody.

35. The use of any one of claims 29-34, wherein the chemotherapy is gemcitabine, oxaliplatin, or a combination of gemcitabine and oxaliplatin (GEMOX).

36. The use of any one of claims 1-35, wherein the anti-CD20 antibody comprises:

(a) rituximab; or

(b)(i) one, two, three, four, five, or six complementarity determining regions (CDRs) comprising the sequences of SEQ ID: 131-136; and/or

(b)(ii) an Fc region, the Fc region comprising a C_{H2} sequence of SEQ ID NO: 140 and a C_{H3} sequence of SEQ ID NO: 141; and/or

(b)(iii) a Fab or scFv, wherein the Fab or scFv comprises a variable heavy chain sequence of SEQ ID NO: 137 and a variable light chain sequence of SEQ ID NO: 142; and/or

(b)(iv) a Fab or scFv, wherein the Fab or scFv comprises the sequences of SEQ ID: 131-136.

37. The use of claim 36(b)(i), wherein the anti-CD20 antibody comprises a variable heavy chain sequence of SEQ ID NO: 137 and/or a variable light chain sequence of SEQ ID NO: 142.