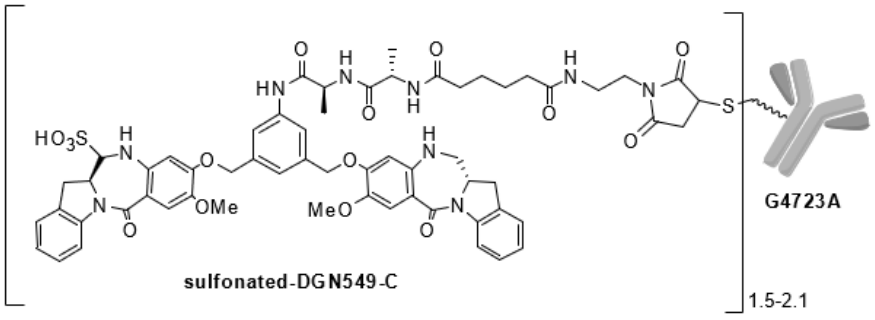
CLAIMS:

1. Use of an immunoconjugate that binds to CD123 in the manufacture of a medicament for the treatment of a hematologic malignancy in a subject, wherein said immunoconjugate has the following structure:



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wherein G4723A is an antibody comprising a heavy chain comprising the amino acid sequence set forth in SEQ ID NO:3 and a light chain comprising the amino acid sequence set forth in SEQ ID NO:4, wherein the medicament is to be administered in combination with venetoclax and azacitidine.

2. The use of claim 1, wherein the administration is a front-line therapy.

3. The use of claim 1 or claim 2, wherein the medicament is to be administered intravenously.

4. The use of any one of claims 1-3, wherein the administration of the immunoconjugate with the venetoclax, and the azacitidine produces a synergistic effect.

5. The use of any one of claims 1-4, wherein administration of the immunoconjugate, the venetoclax, and the azacitidine does not produce more toxicity than the administration of the immunoconjugate and the venetoclaxor the immunoconjugate and the azacitidine.

6. The use of any one of claims 1-5, wherein the medicament is to be administered once in a 21-day cycle.

7. The use of claim 6, wherein the medicament is to be administered at a dose of about 0.045 mg/kg once in the 21-day cycle.

8. The use of claim 6, wherein the medicament is to be administered at a dose of about 0.03 mg/kg once in the 21-day cycle.

9. The use of any one of claims 1-8, wherein the venetoclax is to be administered daily in a 21-day cycle.

10. The use of any one of claims 1-8, wherein the venetoclax is to be administered at a dose of 100 mg on day 1 of a 21-day cycle, at a dose of 200 mg on day 2 of the 21-day cycle, and at a dose of 400 mg on days 3-21 of the 21-day cycle.

11. The use of any one of claims 1-8, wherein the venetoclax is to be administered at a dose of 100 mg on day 1 of a 21-day cycle, at a dose of 200 mg on day 2 of the 21-day cycle, and a dose of 400 mg on days 3-7 or days 3-14 of the 21-day cycle.

12. The use of any one of claims 1-9, wherein the venetoclax is to be administered at a dose of 400 mg.

13. The use of any one of claims 1-9, wherein the venetoclax is to be administered at dose of 200 mg.

14. The use of any one of claims 9, 12 and 13, wherein the venetoclax is to be administered daily on days 1-7 of the cycle.

15. The use of any one of claims 9, 12 and 13, wherein the venetoclax is to be administered daily on days 1-8 of the cycle.

16. The use of any one of claims 9, 12 and 13, wherein the venetoclax is to be administered daily on days 1-14 of the cycle.

17. The use of any one of claims 9, 12 and 13, wherein the venetoclax is to be administered daily on days 1-18 of the cycle.

18. The use of any one of claims 9, 12 and 13, wherein the venetoclax is to be administered daily on days 1-21 of the cycle.

19. The use of any one of claims 1-18, wherein the venetoclax is to be administered orally.

20. The use of any one of claims 1-19, wherein administration of the medicament is initiated six days after initiation of the administration of the venetoclax.

21. The use of any one of claims 1-20, wherein the hematological malignancy is present in the subject as minimal residual disease (MRD).

22. The use of any one of claims 6-21, wherein the administration is for one cycle.

23. The use of any one of claims 6-21, wherein the administration is for more than one cycle, optionally wherein the administration is for at least 2 cycles, at least 3 cycles, at least 4 cycles, at least 5 cycles, at least 6 cycles, at least 7 cycles, at least 8 cycles, at least 9 cycles, or at least 10 cycles or wherein the administration is for about 2-4 cycles, about 2-6 cycles, about 2-8 cycles, about 2-10 cycles, or about 2-12 cycles.

24. The use of any one of claims 1-23, wherein a reduced dose of the medicament is to be administered after a dose-limiting toxicity has occurred in the subject and has been reduced to baseline or $\leq$ Grade 2.

25. The use of any one of claims 1-24, wherein the medicament is to be further administered as a maintenance therapy.

26. The use of claim 25, wherein the maintenance therapy is to be administered once in a 21-day cycle.

27. The use of claim 26, wherein the maintenance therapy is to be administered at a dose of about 0.015 mg/kg to about 0.09 mg/kg once in the 21-day cycle, optionally wherein the dose is about 0.015 mg/kg, about 0.045 mg/kg, or about 0.09 mg/kg.

28. The use of claim 26, wherein the medicament of the maintenance therapy is to be administered at a dose of about 0.045 mg/kg once in the 21-day cycle.

29. The use of any one of claims 1, 3-20, and 22-28, wherein the hematological malignancy is a relapsed hematological malignancy.

30. The use of any one of claims 1, 3-20, and 22-29, wherein the hematological malignancy is a refractory hematological malignancy.

31. The use of any one of claims 1-30, wherein the hematological malignancy is AML.

32. The use of claim 31, wherein the AML is unfit AML.

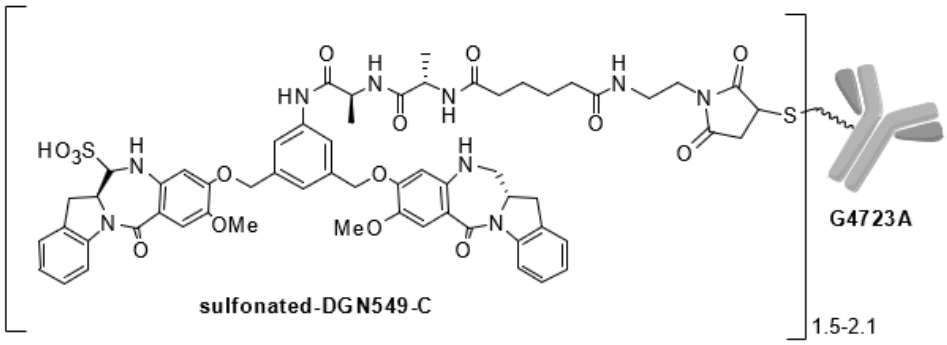
33. The use of claim 31 or 32, wherein the AML is relapsed and/or refractory AML.

34. The use of any one of claims 1-33, wherein the hematological malignancy is a CD123-expressing hematological malignancy.

35. The use of any one of claims 1-34, wherein CD123 has been detected in a sample obtained from the hematological malignancy prior to the administration.

36. The use of claim 35, wherein the CD123 was detected using flow cytometry.

37. The use of any one of claims 1-36, wherein the hematological malignancy is resistant to an immunoconjugate with the following structure:



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wherein G4723A is an antibody comprising a heavy chain comprising the amino acid sequence set forth in SEQ ID NO:3 and a light chain comprising the amino acid sequence set forth in SEQ ID NO:4.

38. The use of any one of claims 1-37, wherein the hematological malignancy expresses multidrug resistance 1 (MDR1).

39. The use of any one of claims 1-38, wherein the hematological malignancy expresses P-glycoprotein (P-gp).

40. The use of any one of claims 1-39, wherein the subject has an absolute neutrophil count of greater than 500 neutrophils/μL.

41. The use of any one of claims 1 and 3-40, wherein the subject received at least one prior line of therapy.

42. The use of any one of claims 1 and 3-40, wherein the subject received at least two prior lines of therapy or at least three prior lines of therapy.

43. The use of any one of claims 1 and 3-42, wherein the cancer has previously been treated with venetoclax.

44. The use of any one of claims 1-42, wherein the cancer has not previously been treated with venetoclax.

45. The use of any one of claims 1 and 3-44, wherein the cancer has previously been treated with a hypomethylating agent.

46. The use of any one of claims 1-44, wherein the cancer has not previously been treated with a hypomethylating agent.

47. The use of any one of claims 1-46, wherein the immunoconjugate and the venetoclax, the azacitidine are to be administered in separate pharmaceutical compositions.

48. The use of any one of claims 1-47, wherein the subject is human.

49. The use of any one of claims 1-48, wherein at least 80% of cells in the hematological malignancy express CD123.

50. The use of any one of claims 1-49, wherein CD123 has been detected in at least 80% of cells in a sample obtained from the hematological malignancy prior to the administration.