

CLAIMS:

1. A heavy chain-only antibody binding to CD19 comprising a heavy chain variable region comprising a CDR1 sequence of SEQ ID NO: 4, a CDR2 sequence of SEQ ID NO: 10, and a CDR3 sequence of SEQ ID NO: 13.
2. The heavy chain-only antibody of claim 1, wherein said CDR1, CDR2, and CDR3 sequences are present in a human framework.
3. The heavy chain-only antibody of claim 1, further comprising a heavy chain constant region sequence in the absence of a CH1 sequence.
4. The heavy chain-only antibody of claim 1, comprising a heavy chain variable region having at least 95% sequence identity to SEQ ID NO: 17.
5. The heavy chain-only antibody of claim 1, comprising a heavy chain variable region comprising SEQ ID NO: 17.
6. A heavy chain-only antibody binding to CD19, comprising a heavy chain variable region comprising a CDR1 sequence of SEQ ID NO: 4, a CDR2 sequence of SEQ ID NO: 10, and a CDR3 sequence of SEQ ID NO: 13, in a human VH framework.
7. The heavy chain-only antibody of claim 1, which is multi-specific.
8. The heavy chain-only antibody of claim 7, which is bispecific.
9. The heavy chain-only antibody of claim 7, having binding affinity to an effector cell.
10. The heavy chain-only antibody of claim 7, having binding affinity to a T-cell antigen.
11. The heavy chain-only antibody of claim 10, having binding affinity to CD3.
12. The heavy chain-only antibody of claim 1, which is part of a CAR-T structure.

13. A pharmaceutical composition comprising the heavy chain-only antibody of claim 1.
14. Use of an antibody of any one of claims 1-12, or a pharmaceutical composition of claim 13, in the manufacture of a medicament for the treatment of a B-cell disorder characterized by expression of CD19.
15. The use of claim 14, wherein the disorder is diffuse large B-cell lymphoma (DLBCL).
16. The use of claim 14, wherein the disorder is acute lymphoblastic leukemia (ALL).
17. The use of claim 14, wherein the disorder is non-Hodgkin's lymphoma (NHL).
18. The use of claim 14, wherein the disorder is systemic lupus erythematosus (SLE).
19. The use of claim 14, wherein the disorder is rheumatoid arthritis (RA).
20. The use of claim 14, wherein the disorder is multiple sclerosis (MS).
21. A kit for treating a B-cell disorder characterized by expression of CD19 in an individual in need, the kit comprising the antibody of claim 1, or the pharmaceutical composition of claim 13, and instructions for use.
22. The kit of claim 21, further comprising at least one additional reagent.
23. The kit of claim 22, wherein the at least one additional reagent comprises a chemotherapeutic drug.
24. An antibody of any one of claims 1-12, or a pharmaceutical composition of claim 13 for use in therapy.