We Claim:

1. A use of an antibody specific for CD19 comprising

a variable heavy chain of the sequence
EVQLVESGGGLVKPGGSLKLSCAASGYTFTSYVMHWVRQAPGKGLEWIGYINPY
NDGTKYNEKFQGRVTISSDKSISTAYMELSSLRSEDTAMYYCARGTYYYGTRVFDYWG
QGTLVTVSS (SEQ ID NO: 10),
a variable light chain of the sequence
DIVMTQSPATLSLSPGERATLSCRSSKSLQNVNGNTYLYWFQQKPGQSPQLLIYR
MSNLNSGVPDRFSGSGSGTEFTLTISSLEPEDFAVYYCMQHLEYPITFGAGTKLEIK (SEQ ID NO: 11),
a heavy chain constant domain of the sequence
\ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVH
TFPAVLQSSGLYSLSS**VV**TVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLG
GPDVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRV
VSVLTVVHQDWLNGKEYKCKVSNKALPAPEEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLV
KGFYPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHN
HYTQKSLSLSPGK (SEQ ID NO: 12) and
a light chain constant domain of the sequence
RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKD
STYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO: 13), for the preparation of a medicament for treatment of non-Hodgkin's lymphoma, chronic lymphocytic leukemia and/or acute lymphoblastic leukemia, wherein said antibody specific for CD19 is used in combination with fludarabine.

2. A use according to claim 1, which is able to mediate killing of MEC-1 cells by antibody-dependent cellular cytotoxicity (ADCC) in the presence of isolated human peripheral blood mononuclear cells (PBMCs) with an at least two-fold better efficacy than fludarabine alone.

3. A use according to claim 1 or 2 for the preparation of a medicament for treatment of non-Hodgkin's lymphoma.

4. A use according to claim 1 or 2 for the preparation of a medicament for treatment of chronic lymphocytic leukemia.

5. A use according to claim 1 or 2 for the preparation of a medicament for treatment of acute lymphoblastic leukemia.

6. A use according to claim 3 for the treatment of non-Hodgkin's lymphoma, wherein the non-Hodgkin's lymphoma is selected from the group consisting of follicular lymphoma, small lymphocytic lymphoma, mucosa-associated lymphoid tissue lymphoma, marginal zone lymphoma, diffuse large B cell lymphoma, Burkitt's lymphoma, and mantle cell lymphoma.

7. A use according to claim 6 for the preparation of a medicament for treatment of follicular lymphoma.

8. A use according to claim 6 for the preparation of a medicament for treatment of small lymphocytic lymphoma.

9. A use according to claim 6 for the preparation of a medicament for treatment of mucosa-associated lymphoid tissue lymphoma.

10. A use according to claim 6 for the preparation of a medicament for treatment of marginal zone lymphoma.

11. A use according to claim 6 for the preparation of a medicament for treatment of diffuse large B cell lymphoma.

12. A use according to claim 6 for the preparation of a medicament for treatment of Burkitt's lymphoma.

13. A use according to claim 6 for the preparation of a medicament for treatment of mantle cell lymphoma.

14. A use according to any one of the preceding claims, wherein said antibody specific for CD19 and fludarabine are administered separately.