

CLAIMS

1. A multimeric binding protein that binds specifically to human CD20, human NKp46, human CD122, and optionally CD16A, in which the protein comprises:

(a) a first (I) polypeptide chain comprising the amino acid sequence of SEQ ID NO: 1, and a second (II) polypeptide chain comprising the amino acid sequence of SEQ ID NO: 70;

(b) a first (I) polypeptide chain comprising the amino acid sequence of SEQ ID NO: 1, a second (II) polypeptide chain having an amino acid sequence of SEQ ID NO: 9, and a third (III) polypeptide chain comprising the amino acid sequence of SEQ ID 17;

(c) a first (I) polypeptide chain comprising the amino acid sequence of SEQ ID NO: 1, a second (II) polypeptide chain having an amino acid sequence of SEQ ID NO: 73, and a third (III) polypeptide chain comprising the amino acid sequence of SEQ ID NO: 74, or

(d) a first (I) polypeptide chain comprising the amino acid sequence of SEQ ID NO: 66, a second (II) polypeptide chain having an amino acid sequence of SEQ ID NO: 67, and a third (III) polypeptide chain comprising the amino acid sequence of SEQ ID 17.

2. A binding protein according to Claim 1, in which the binding protein comprises:

a polypeptide (I) consisting of an amino acid sequence of SEQ ID NO: 1;

a polypeptide (II) consisting of an amino acid sequence of SEQ ID NO: 9; and

a polypeptide (III) consisting of an amino acid sequence of SEQ ID NO: 17.

3. A binding protein according to Claim 1, in which the binding protein comprises a polypeptide comprising the amino acid sequence of SEQ ID NO: 1, and a polypeptide comprising the amino acid sequence of SEQ ID NO: 70.

4. A pharmaceutical composition comprising a binding protein according to any preceding claim and a pharmaceutically acceptable carrier.

5. An isolated nucleic acid molecule comprising a nucleotide sequence that encodes a binding protein or a polypeptide chain thereof according to Claim 1, 2 or 3.

6. An isolated cell comprising a nucleic acid molecule according to Claim 5.

7. A binding protein according to Claim 1, 2 or 3, for use in the treatment of a cancer involving CD20-expressing cells.
8. Use of a binding protein according to Claim 1, 2 or 3 in the manufacture of a medicament for treating a cancer characterized by CD20-expressing cells, in which the
5 binding protein is to be administered to the subject.
9. A binding protein for use according to Claim 7 or a use according to Claim 8, in which the cancer is selected from the group consisting of B cell lymphoma, Hodgkin's or non Hodgkins B cell lymphoma, precursor B cell lymphoblastic leukemia/lymphoma and mature B cell neoplasms, such as B cell chronic lymphocytic leukemia (CLL)/small lymphocytic
10 lymphoma (SLL), B cell prolymphocytic leukemia, lymphoplasmacytic lymphoma, mantle cell lymphoma (MCL), follicular lymphoma (FL), cutaneous follicle center lymphoma, marginal zone B cell lymphoma (MALT type, nodal and splenic type), hairy cell leukemia, diffuse large B cell lymphoma, Burkitt's lymphoma, plasmacytoma, plasma cell myeloma, post-transplant lymphoproliferative disorder, Waldenstrom's macroglobulinemia, and
15 anaplastic large-cell lymphoma (ALCL).
10. A method for making a binding protein according to Claim 1, 2 or 3, comprising a step of:
 - (a) culturing host cell(s) under conditions suitable for expressing a plurality of recombinant polypeptides, the plurality comprising (i) a polypeptide comprising an
20 amino acid sequence of SEQ ID NOs: 1 or 66, and (ii) a polypeptide comprising an amino acid sequence of SEQ ID NOs: 9, 67, 70 or 73, and optionally (iii) a polypeptide comprising an amino acid sequence of SEQ ID NOs: 17 or 74; and
 - (b) optionally recovering the expressed recombinant polypeptides.