

C L A I M S

1. Amino acid sequence that is an immunoglobulin single variable domain capable of binding to (human) serum albumin that has:

- 5 - a CDR1 (according to Abm) that is the amino acid sequence GLTFSSYAMG (SEQ ID NO: 12) or an amino acid sequence that has 2 or 1 amino acid difference(s) (as defined herein) with the amino acid sequence of SEQ ID NO: 12; and
- a CDR2 (according to Abm) that is the amino acid sequence SISRGGGYTY (SEQ ID NO: 13) or an amino acid sequence that has 3, 2 or 1 amino acid difference(s) (as defined
10 herein) with the amino acid sequence of SEQ ID NO: 13; and
- a CDR3 (according to Abm) that is the amino acid sequence ARYWATGSEYEFDY (SEQ ID NO: 14) or an amino acid sequence that has 3, 2 or 1 amino acid difference(s) (as defined herein) with the amino acid sequence of SEQ ID NO: 14.

15 2. Amino acid sequence according to claim 1, that has:

- a CDR1 (according to Abm) that is the amino acid sequence GLTFSSYAMG (SEQ ID NO: 12); and
- a CDR2 (according to Abm) that is the amino acid sequence SISRGGGYTY (SEQ ID NO: 13); and
- 20 - a CDR3 (according to Abm) that is the amino acid sequence ARYWATGSEYEFDY (SEQ ID NO: 14).

3. Amino acid sequence according to claim 1, that can bind to human serum albumin with an affinity better than 100nM, preferably better than 50nM, as determined using
25 ProteOn.

4. Amino acid sequence according to any of the preceding claims, that is a heavy-chain immunoglobulin single variable domain.

30 5. Amino acid sequence according to any of the preceding claims, that is a VHH, a humanized VHH or a camelized VH (and in particular, a camelized human VH).

6. Amino acid sequence according to any of the preceding claims, that is such that:

- it has a serum half-life in man (expressed as $t_{1/2}$ beta) that is more than 6 hours, preferably more than 12 hours, more preferably of more than 24 hours, even more preferably more than 72 hours;

and/or such that:

- when it is linked to a therapeutic moiety or entity, it confers to the resulting polypeptide of the invention a serum half-life in man (expressed as $t_{1/2}$ beta) that is more than 6 hours, preferably more than 12 hours, more preferably of more than 24 hours, even more preferably more than 72 hours.

7. Amino acid sequence according to any of the preceding claims, that has:

- a degree of sequence identity with the sequence of SEQ ID NO: 15 (in which the CDR's and any C-terminal extension that may be present are not taken into account for determining the degree of sequence identity) of at least 85%, preferably at least 90%, more preferably at least 95%;

and/or that has:

- no more than 7, preferably no more than 5, such as only 3, 2 or 1 "amino acid differences" (as defined herein, and not taking into account the CDRs and any C-terminal extension that may be present) with the sequence of SEQ ID NO: 15.

8. Amino acid sequence according to any of the preceding claims, that contains, compared to the sequence of SEQ ID NO:15, one or more mutations that reduce the binding by pre-existing antibodies.

9. Amino acid sequence according to any of the preceding claims, that is a VHH and that contains, compared to the sequence of SEQ ID NO:15, one or more humanizing substitutions.

10. Amino acid sequence that is an immunoglobulin single variable domain capable of binding to (human) serum albumin and that is chosen from SEQ ID NO's: 15 to 77.

11. Protein, polypeptides or other construct, compound, molecule or chemical entity that comprises at least one amino acid sequence according to any of claims 1 to 10.

12. Protein, polypeptide or other construct, compound, molecule or chemical entity according to claim 11, that comprises at least one therapeutic moiety or entity.

5 13. Protein, polypeptide or other construct, compound, molecule or chemical entity according to claim 11 or 12 that is a fusion protein.

14. Protein, polypeptide or other construct, compound, molecule or chemical entity according to any of claims 11 to 14 that has a serum half-life in man (expressed as $t_{1/2}$ beta) that is more than 6 hours, preferably more than 12 hours, more preferably of more than 24 hours, even more preferably more than 72 hours.

15. Protein, polypeptide or other construct, compound, molecule or chemical entity according to any of claims 11 to 14, that is such that:

- 15 - when it has an ISVD at its C-terminal end, then (the C-terminal ISVD of) said protein, polypeptide, compound, construct has a C-terminal extension $(X)_n$ (as further described herein) at its C-terminal end; and/or
- when it has an ISVD at its C-terminal end, then at least said the C-terminal ISVD contains one or more mutations that reduce the binding of pre-existing antibodies (as further described herein); and/or
- 20 - when it has an ISVD at its N-terminal end, then (the N-terminal ISVD of) said protein, polypeptide, compound, construct preferably contains a D at position 1; and/or
- in which said ISVDs which protein, polypeptide or other compound may also have ISVD at its N-terminal end, in which case said N-terminal ISVD end preferably has a D or an E1D at position 1; and/or
- 25 - preferably, essentially all of the ISVDs present in said protein, polypeptide, compound, construct contain one or more mutations that reduce the binding of pre-existing antibodies

16. Pharmaceutical composition comprising a protein, polypeptide or other construct, compound, molecule or chemical entity according to any of claims 11 to 15.