Claims

1. Protein or polypeptide for use in therapy, which protein or polypeptide contains an immunoglobulin single variable domain (ISV) at its C-terminal end, wherein said ISV is either a VHH, sequence optimized VHH, humanized VHH or camelized VH, or is an ISV that comprises a VH sequence other than a VHH, sequence optimized VHH, humanized VHH or camelized VH or that is derived from a VH sequence, which ISV has a C-terminal end of the sequence $VTVSS(X)_n$, in which:

   - n = 1, 2 or 3 in which each X = Ala or Gly; or
   - n = 1, 2 or 3 in which each X = Ala; or
   - n = 1, 2 or 3 in which each X = Gly; or
   - n = 2 or 3 in which at least one X = Ala or Gly ; or
   - n = 2 or 3 in which all but one X = Ala or Gly,

   and which protein or polypeptide includes a serum albumin binding peptide or serum albumin binding domain and has a half-life expressed as t1/2-beta in a human subject of at least 3 days.

2. Protein or polypeptide for use according to claim 1, in which the serum albumin binding peptide or serum albumin binding domain is a serum albumin binding ISV.

3. Protein or polypeptide for use according to claim 1, in which n = 1 or n = 2.

4. Protein or polypeptide for use according to claim 1, in which n = 2 or 3 and at least one X = Ala or Gly or n = 2 or 3 and all but one X = Ala or Gly, with the remaining amino acid residue X being independently chosen from any naturally occurring amino acid.

5. Protein or polypeptide for use according to claim 4, in which the remaining amino acid residue X is independently chosen from Val, Leu and/or Ile.

6. Protein or polypeptide for use according to claim 1, in which:

   - n = 1, 2 or 3 in which each X = Ala or Gly; or
   - n = 1, 2 or 3 in which each X = Ala; or
   - n = 1, 2 or 3 in which each X = Gly.

7. Protein or polypeptide for use according to claim 1, in which X is not cysteine.

8. Protein or polypeptide for use in therapy which protein or polypeptide contains an ISV at its C-terminal end, wherein said ISV is either a VHH, sequence optimized VHH, humanized VHH or camelized VH, or is an ISV that comprises a VH sequence other than a VHH, sequence optimized VHH, humanized VHH or camelized VH or that is derived from a VH sequence, which ISV has a C-terminal end of the sequence VTVSS(X)n, in which n is 1 to 5, such as 1, 2, 3, 4 or 5, and in which each X is an amino acid residue that is independently chosen, with the proviso that X is not cysteine,
and which protein or polypeptide includes a serum albumin binding peptide or serum albumin binding domain and has a half-life expressed as t1/2-beta in a human subject of at least 3 days.

9. Protein or polypeptide for use according to claim 8, in which n is 1 or 2.

10. Protein or polypeptide for use according to claim 8 or 9, in which each X is a naturally occurring amino acid.

11. Protein or polypeptide for use according to any of claims 8-10, in which each X is chosen from the group consisting of alanine (A), glycine (G), valine (V), leucine (L) or isoleucine (I).

12. Protein or polypeptide for use according to any of claims 1-11, in which said C-terminal ISV is a VHH, sequence optimized VHH, humanized VHH or camelized VH.

13. Protein or polypeptide for use according to claim 8, in which the serum albumin binding peptide or serum albumin binding domain is a serum albumin binding ISV.

14. Pharmaceutical composition for use in therapy, that comprises a protein or polypeptide according to any of claims 1-13, and at least one suitable carrier, diluent or excipient.

15. Pharmaceutical composition for use in therapy according to claim 14, in which:
    - said composition, protein or polypeptide is intended for treatment of a chronic disease in a human being, and/or
    - said protein, polypeptide is intended to be present in the circulation of the subject to which it is administered for at least a period of one week; and/or
    - said protein, polypeptide is such that it has a half-life expressed as t1/2-beta in a human subject of at least 3 days; and/or

- said protein, polypeptide or pharmaceutical composition is intended to be administered to a human being as two or more doses that are administered over a period of at least 3 days.

16. Pharmaceutical composition for use in therapy according to claim 15, in which said protein, polypeptide is intended to be present in the circulation of the subject at pharmacologically active levels to which it is administered at a therapeutically active dose for at least a period of one week.

17. Pharmaceutical composition for use in therapy according to claim 15 or 16, in which said protein, polypeptide or pharmaceutical composition is intended to be administered to a human being as two or more doses that are chronically administered.