

CLAIMS

1. A trimeric protein comprising three monomer polypeptides, wherein each monomer polypeptide comprises (1) a first 4-1BB-targeting lipocalin mutein (T1), and (2) a trimerization moiety (O).
2. The trimeric protein of claim 1, wherein the first 4-1BB-targeting lipocalin mutein (T1) is fused at its N-terminus or C-terminus to the C-terminus or N-terminus, respectively, of the oligomerization moiety (O) via a linker (L).
3. The trimeric protein of claim 1 or 2, wherein the monomer polypeptide further comprises (3) an additional targeting moiety (T2).
4. The trimeric protein of any one of claims 1-3, wherein the monomer polypeptide further comprises (3) an additional targeting moiety (T2), wherein the additional targeting moiety (T2) is placed in tandem with the first 4-1BB-targeting moiety (T1), wherein the monomer polypeptide has preferably one of the following configurations:
 - a. T1-L'-T2-L-O;
 - b. T2-L'-T1-L-O;
 - c. O-L-T1-L'-T2; or
 - d. O-L-T2-L'-T1;wherein L' is a linker that is the same as or different from L.
5. The trimeric protein of any one of claims 1-3, wherein the monomer polypeptide further comprises (3) an additional targeting moiety (T2), wherein the additional targeting moiety (T2) is linked to a different terminus of the oligomerization moiety (O) than the first 4-1BB-targeting moiety (T1), wherein the monomer polypeptide preferably has one of the following configurations:
 - a. T1-L-O-L'-T2; or
 - b. T2-L'-O-L-T1;wherein L' is a linker that is the same as or different from L.
6. The trimeric protein of any one of claims 3-5, wherein the additional targeting moiety (T2) is a second 4-1BB-targeting lipocalin mutein, wherein the second 4-1BB-targeting

lipocalin mutein is preferably the same as the first 4-1BB-targeting lipocalin mutein.

7. The trimeric protein of any one of claims 3-5, wherein the additional targeting moiety (T2) is a T cell activation enhancing targeting moiety.
8. The trimeric protein of any one of claims 3-5, wherein the additional targeting moiety (T2) is an OX40-targeting lipocalin mutein.
9. The trimeric protein of claim 8, wherein the lipocalin mutein has at least 85% sequence identity to an amino acid sequence selected from the group consisting of SEQ ID NOs: 174-202.
10. The trimeric protein of any one of claims 1-9, wherein the first 4-1BB-targeting lipocalin mutein (T1) is a lipocalin mutein having at least 85% sequence identity to an amino acid sequence selected from the group consisting of SEQ ID NOs: 56-71.
11. The trimeric protein of any one of claims 1-10, wherein the trimerization moiety (O) is a trimerization domain of a collagen.
12. The trimerization protein of any one of claims 1-11, wherein the oligomerization moiety (O) comprises the amino acid sequence of SEQ ID NO: 35 or has at least 85% sequence identity to the amino acid sequence of SEQ ID NO: 35.
13. The trimeric protein of any one of claims 2-12, wherein the linker (L) has at least 85% sequence identity to an amino acid sequence selected from the group consisting of SEQ ID NOs: 12-28.
14. The trimeric protein of any one of claims 1-13, wherein the trimeric protein comprises an amino acid sequence selected from the group consisting of SEQ ID NOs: 38-45, 48-53 and 164-166 or comprises an amino acid sequence that has at least 85% sequence identity to an amino acid sequence selected from the group consisting of SEQ ID NOs: 38-45, 48-53 and 164-166.

15. A nucleic acid molecule comprising a nucleotide sequence encoding a monomer polypeptide comprised in a trimeric protein of any one of claims 1-14.
16. A cell containing a nucleic acid molecule of claim 15 and/or expressing the trimeric protein of any one of claims 1-14 and/or expressing a monomer polypeptide as defined in any one of claims 1-14.
17. The cell of claim 16, wherein the cell is an immune cell, preferably a CAR-T cell.
18. A pharmaceutical composition comprising one or more trimeric proteins of any one of claims 1-14 and/or one or more cells of claim 16 or 17.
19. The trimeric protein of any one of claims 1-14 and/or the cell of claim 16 or 17 for use in a therapy.
20. Use of a multimeric protein of any one of claims 1-14 and/or the cell of claim 16 or 17 in the manufacture of a medicament, wherein the medicament is preferably for the treatment of cancer.