

WHAT IS CLAIMED IS:

1. A Signal-regulatory protein alpha (SIRP α)-4-1BB ligand (41BBL) fusion protein being characterized by a single amino acid linker between said SIRP α and said 41BBL; and being in a form of a homo-trimer.
2. A Signal regulatory protein α (SIRP α)-4-1BB ligand (41BBL) fusion protein being characterized by a single amino acid linker between said SIRP α and said 41BBL.
3. A Signal regulatory protein α (SIRP α)-4-1BB ligand (41BBL) fusion protein being in a form of a homo-trimer.
4. The SIRP α -41BBL fusion protein of any one of claims 1-2, wherein the linker is glycine.
5. The SIRP α -41BBL fusion protein of any one of claims 1-4, wherein said fusion protein is capable of at least one of:
 - (i) binding CD47 and 4-1BB;
 - (ii) activating said 4-1BB signaling pathway in a cell expressing said 4-1BB;
 - (iii) co-stimulating immune cells expressing said 4-1BB; and/or
 - (iv) enhancing phagocytosis of pathologic cells expressing said CD47 by phagocytes compared to same in the absence of said SIRP α -41BBL fusion protein.
6. The SIRP α -41BBL fusion protein of any one of claims 1-5, wherein said SIRP α -41BBL fusion protein amino acid sequence comprises SEQ ID NO: 1.
7. A polynucleotide encoding the SIRP α -41BBL fusion protein of any one of claims 1-6.
8. A nucleic acid construct comprising the polynucleotide of claim 7, and a regulatory element for directing expression of said polynucleotide in a host cell.

9. A host cell comprising the SIRP α -41BBL fusion protein of any one of claims 1-6 or the polynucleotide or the nucleic acid construct of any one of claims 7-8.

10. A method of in-vitro producing a SIRP α -41BBL fusion protein, the method comprising expressing in a host cell the polynucleotide or the nucleic acid construct of any one of claims 7-8.

11. The method of claim 10, comprising isolating the fusion protein.

12. The SIRP α -41BBL fusion protein of any one of claims 1-6, the polynucleotide or the nucleic acid construct of any one of claims 7-8 or the host cell of claim 9 for use in treating cancer, wherein diseased cells of said subject express CD47.

13. A method of activating immune cells, the method comprising in-vitro activating immune cells in the presence of the SIRP α -41BBL fusion protein of any one of claims 1-6.

14. The method of claim 13, wherein said activating is in the presence of cells expressing CD47 or exogenous CD47.