

WHAT IS CLAIMED IS:

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

10. The SIRP α -41BBL fusion protein of any one of claims 1-4, the polynucleotide or the nucleic acid construct of any one of claims 5-6 or the host cell of claim 7 for use in treating cancer.

11. The SIRP α -41BBL fusion protein, the polynucleotide or the nucleic acid construct or the host cell for use of claim 10, wherein diseased cells of said subject express CD47.

12. 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 1-4, the polynucleotide or the nucleic acid construct of any one of claims 5-6 or the host cell of claim 7.

13. The method of claim 12, wherein said activating is in the presence of cells expressing CD47 or exogenous CD47.

14. Immune cells for use in adoptive transfer to a subject in need thereof, wherein said immune cells are obtainable by the method of any one of claims 12-13.