

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 55, 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 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 a disease that can benefit from activating immune cells.

11. The SIRP α -41BBL fusion protein, the polynucleotide, the nucleic acid construct or the host cell for use of claim 10, wherein said disease comprises a hyper-proliferative disease, a disease associated with immune suppression or medication induced immunosuppression or an infection.

12. An anti-cancer agent; and a SIRP α -41BBL fusion protein, a polynucleotide encoding same, a nucleic acid construct encoding same or a host cell expressing same for use in treating cancer.

13. The SIRP α -41BBL fusion protein, the polynucleotide, the nucleic acid construct or the host cell for use or the anti-cancer agent and the SIRP α -41BBL fusion protein, the polynucleotide, the nucleic acid construct or the host cell for use of any one of claims 10-1233, wherein diseased cells of said subject express CD47.

14. A method of activating immune cells, the method comprising in-vitro activating immune cells in the presence of a SIRP α -41BBL fusion protein, a polynucleotide encoding same, a nucleic acid construct encoding same or a host cell expressing same.

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