WHAT IS CLAIMED IS:

1. A single-chain chimeric polypeptide comprising in an N-terminal to C-terminal direction:

(i) a first target-binding domain;

(ii) a soluble tissue factor (TF) domain comprising an amino acid sequence that is at least 90% identical to SEQ ID NO: 9; and

(iii) a second target-binding domain,

wherein:

(a) the first and second target-binding domain each comprises a sequence that is at least 90% identical to SEQ ID NO: 28;

(b) the first target-binding domain comprises a first sequence that is at least 90% identical to SEQ ID NO: 16 and a second sequence that is at least 90% identical to SEQ ID NO: 17; and the second target-binding domain comprises a first sequence that is at least 90% identical to SEQ ID NO: 22 and a second sequence that is at least 90% identical to SEQ ID NO: 23; or

(c) the first target-binding domain comprises a first sequence that is at least 90% identical to SEQ ID NO: 22 and a second sequence that is at least 90% identical to SEQ ID NO: 23; and the second target-binding domain comprises a first sequence that is at least 90% identical to SEQ ID NO: 16 and a second sequence that is at least 90% identical to SEQ ID NO: 17; and wherein

the single-chain chimeric polypeptide does not stimulate blood coagulation in a mammal.

2. The single-chain chimeric polypeptide of claim 1, wherein the first target-binding domain and the soluble tissue factor domain directly abut each other.

3. The single-chain chimeric polypeptide of claim 1, wherein the single-chain chimeric polypeptide further comprises a linker sequence between the first target-binding domain and the soluble tissue factor domain.

4. The single-chain chimeric polypeptide of any one of claims 1-3, wherein the soluble tissue factor domain and the second target-binding domain directly abut each other.

5. The single-chain chimeric polypeptide of any one of claims 1-3, wherein the single-chain chimeric polypeptide further comprises a linker sequence between the soluble tissue factor domain and the second target-binding domain.

6. The single-chain chimeric polypeptide of any one of claims 1-5, wherein the first target-binding domain and the second target-binding domain bind specifically to the same antigen.

7. The single-chain chimeric polypeptide of claim 6, wherein the first target-binding domain and the second target-binding domain bind specifically to the same epitope.

8. The single-chain chimeric polypeptide of claim 7, wherein the first target-binding domain and the second target-binding domain comprise the same amino acid sequence.

9. The single-chain chimeric polypeptide of any one of claims 1-5, wherein the first target-binding domain and the second target-binding domain bind specifically to different antigens.

10. The single-chain chimeric polypeptide of claim 1, wherein the soluble human tissue factor domain comprises a sequence that is at least 95% identical to SEQ ID NO: 9.

11. The single-chain chimeric polypeptide of any one of claims 1-10, wherein the single-chain chimeric polypeptide further comprises one or more additional target-binding domains at its N- and/or C-terminus.

12. The single-chain chimeric polypeptide of any one of claims 1-5, wherein the first target-binding domain and the second target-binding domain are human IL-2.

13. The single-chain chimeric polypeptide of claim 12, wherein the human IL-2 comprises a sequence at least 95% identical to SEQ ID NO: 28.

14. The single-chain chimeric polypeptide of claim 13, wherein the human IL-2 comprises a sequence of SEQ ID NO: 28.

15. The single-chain chimeric polypeptide of any one of claims 12-14, wherein the soluble tissue factor domain comprises a sequence at least 95% identical to SEQ ID NO: 9.

16. The single-chain chimeric polypeptide of claim 15, wherein the soluble tissue factor domain comprises a sequence of SEQ ID NO: 9.

17. The single-chain chimeric polypeptide of claim 1, wherein the single-chain chimeric polypeptide comprises a sequence at least 90% identical to SEQ ID NO: 108.

18. The single-chain chimeric polypeptide of claim 17, wherein the single-chain chimeric polypeptide comprises a sequence that is at least 95% identical to SEQ ID NO: 108.

19. The single-chain chimeric polypeptide of claim 1, wherein the single-chain chimeric polypeptide comprises a sequence that is at least 90% identical to SEQ ID NO: 5.

20. The single-chain chimeric polypeptide of claim 19, wherein the single-chain chimeric polypeptide comprises a sequence that is at least 95% identical to SEQ ID NO: 5.

21. The single-chain chimeric polypeptide of claim 1, wherein the single-chain chimeric polypeptide comprises a sequence that is at least 90% identical to SEQ ID NO: 1.

22. The single-chain chimeric polypeptide of claim 21, wherein the single-chain chimeric polypeptide comprises a sequence that is at least 95% identical to SEQ ID NO: 1.

23. A composition comprising the single-chain chimeric polypeptide of any one of claims 1-22.

24. The composition of claim 23, wherein the composition is a pharmaceutical composition.

25. A kit comprising at least one dose of the composition of claim 23 or 24.

26. An in vitro method of stimulating an immune cell, the method comprising:

contacting an immune cell with an effective amount of any of the single-chain chimeric polypeptides of claims 1-22 or the composition of claim 23 or 24.

27. An in vitro method of inducing or increasing proliferation of an immune cell, the method comprising:

contacting an immune cell with an effective amount of any of the single-chain chimeric polypeptides of claims 1-22 or the composition of claim 23 or 24.

28. An in vitro method of inducing differentiation of an immune cell into a memory or memory-like immune cell, the method comprising:

contacting an immune cell with an effective amount of any of the single-chain chimeric polypeptides of claims 1-22 or the composition of claim 23 or 24.

29. The method of any one of claims 26-28, wherein the immune cell is selected from the group consisting of: an immature thymocyte, a peripheral blood lymphocyte, a naïve T cell, a pluripotent Th cell precursor, a lymphoid progenitor cell, a Treg cell, a Th17 cell, a Th22 cell, a Th9 cell, a Th2 cell, a Th1 cell, a Th3 cell, γδ T cell, an αβ T cell, a tumor-infiltrating T cell, a CD8+ T cell, a CD4+ T cell, a natural killer T cell, a mast cell, a macrophage, a neutrophil, a dendritic cell, a basophil, an eosinophil, and a natural killer cell.

30. The method of any one of claims 26-29, wherein the immune cell has previously been genetically modified to express a chimeric antigen receptor or a recombinant T-cell receptor.

31. Use of the single-chain chimeric polypeptide of any one of claims 1-22 in the manufacture of a medicament for killing a cancer cell, an infected cell, or a senescent cell in a subject having a cancer, an aging-related disease or condition, or an infectious disease.

32. Use of the single-chain chimeric polypeptide of any one of claims 1-22 in the manufacture of a medicament for treating cancer, an aging-related disease or condition, or an infectious disease.

33. The use of claim 31 or 32, wherein the cancer is selected from the group consisting of: solid tumor, hematological tumor, sarcoma, osteosarcoma, glioblastoma, neuroblastoma, melanoma, rhabdomyosarcoma, Ewing sarcoma, osteosarcoma, B-cell neoplasms, multiple myeloma, B-cell lymphoma, B-cell non-Hodgkin's lymphoma, Hodgkin's lymphoma, chronic lymphocytic leukemia (CLL), acute myeloid leukemia (AML), chronic myeloid leukemia (CML), acute lymphocytic leukemia (ALL), myelodysplastic syndromes (MDS), cutaneous T-cell lymphoma, retinoblastoma, stomach cancer, urothelial carcinoma, lung cancer, renal cell carcinoma, gastic and esophageal cancer, pancreatic cancer, prostate cancer, breast cancer, colorectal cancer,

ovarian cancer, non-small cell lung carcinoma, squamous cell head and neck carcinoma, endometrial cancer, cervical cancer, liver cancer, and hepatocellular carcinoma.

34. The use of claim 31 or 32, wherein the aging-related disease or condition is selected from the group consisting of: Alzheimer's disease, aneurysm, cystic fibrosis, fibrosis in panceatitis, glaucoma, hypertension, idiopathic pulmonary fibrosis, inflammatory bowel disease, intervertebral disc degeneration, macular degeneration, osteoarthritis, type 2 diabetes mellitus, adipose atrophy, lipodystrophy, atherosclerosis, cataracts, COPD, idiopathic pulmonary fibrosis, kidney transplant failure, liver fibrosis, loss of bone mass, myocardial infarction, sarcopenia, wound healing, alopecia, cardiomyocyte hypertrophy, osteoarthritis, Parkinson's disease, age-associated loss of lung tissue elasticity, macular degeneration, cachexia, glomerulosclerosis, liver cirrhosis, NAFLD, osteoporosis, amyotrophic lateral sclerosis, Huntington's disease, spinocerebellar ataxia, multiple sclerosis, and renal dysfunction.

35. The use of claim 31 or 32, wherein the infectious disease is infection with human immunodeficiency virus, cytomegalovirus, adenovirus, coronavirus, rhinovirus, rotavirus, smallpox, herpes simplex virus, hepatitis B virus, hepatitis A virus, and hepatitis C virus, papillomavirus, and influenza virus.

36. Nucleic acid encoding any of the single-chain chimeric polypeptides of any one of claims 1-22.

37. A vector comprising the nucleic acid of claim 36.

38. A cell comprising the nucleic acid of claim 36 or the vector of claim 37.

39. A method of producing a single-chain chimeric polypeptide, the method comprising:

culturing the cell of claim 38 in a culture medium under conditions sufficient to result in the production of the single-chain chimeric polypeptide; and

recovering the single-chain chimeric polypeptide from the cell and/or the culture medium.