What is claimed is:

1. Use of a recombinant TLR5 agonist in the manufacture of a medicament for treating or preventing frailty in a patient, wherein

   (a) a patient desiring or in need of frailty treatment or prevention is identified, wherein the frailty comprises an accumulation of age-related deficiencies in major physiological functions, as measured according to the Physiological Frailty Index, and

   (b) said TLR5 agonist is a flagellin, or a derivative thereof, comprising an amino acid sequence having at least 95% sequence identity to SEQ ID NOs: 1-27, and the TLR5 agonist is not fused to a pathogenic protein antigen.

2. The use of claim 1, wherein the accumulation of age-related deficiencies in major physiological functions comprises reduction of regeneration capabilities, impaired wound healing, and/or increased risk of age-related diseases or disorders.

3. The use of claim 1, wherein the Physiological Frailty Index comprises assessment of one or more parameters selected from grip strength, systolic blood pressure, diastolic blood pressure, blood flow volume, number of blood neutrophils, percentage of blood neutrophils, number of blood monocytes, percentage of blood monocytes, number of lymphocytes, number of red blood cells, hemoglobin levels, hematocrit levels, mean corpuscular volume, mean corpuscular hemoglobin levels, mean corpuscular hemoglobin concentration and keratinocyte-derived cytokine levels.

4. The use of claim 1, wherein the TLR5 agonist comprises a polypeptide having an amino acid sequence that is SEQ ID NO: 1.

5. The use of claim 1, wherein the TLR5 agonist comprises a polypeptide having an amino acid of one of SEQ ID NOs: 2-27.

6. The use of any one of the above claims, wherein the patient's Physiological Frailty Index is reduced by 25% to 75%.

7. The use of claim 6, wherein the patient's Physiological Frailty Index is reduced by at least 75%, or 50%, or 35%, or 25%, optionally wherein the frailty is associated with aging.

8. The use of any one of the above claims, wherein the patient is middle-aged, optionally wherein the patient is between 36 and 55 years old.

9. The use of any one of the above claims, wherein the patient is elderly, optionally wherein the patient is between 56 and 85 years old.

10. The use of any one of the above claims, wherein the biological sex of the patient is male or female.

11. Use of a recombinant TLR5 agonist in the manufacture of a medicament for treating or preventing an age-related disease or disorder in a patient, wherein

(a) a patient desiring or in need of treatment or prevention of an age-related disease or disorder is identified, wherein the age-related disease or disorder is accelerated aging, as measured according to the Physiological Frailty Index and

(b) said TLR5 agonist is a flagellin, or a derivative thereof, comprising an amino acid sequence having at least 95% sequence identity to SEQ ID NOs: 1-27, and the TLR5 agonist is not fused to a pathogenic protein antigen.

12. The use of claim 11, wherein the age-related disease or disorder is characterized by increased cellular senescence.

13. The use of claim 11, wherein the accelerate aging is a Progeroid syndrome, or symptom thereof.

14. The use of claim 13, wherein the Progeroid syndrome is selected from Hutchinson- Gilford progeria syndrome (HGPS), Werner syndrome (WS), Bloom syndrome (BS), Rothmund-Thomson syndrome (RTS), Cockayne syndrome (CS), xeroderma pigmentosum (XP), trichothiodystrophy (TTD), combined xeroderma pigmentosum-Cockayne syndrome (XP-CS), and restrictive dermopathy (RD).

15. The use of claim 11, wherein the accelerated aging is induced by a cancer or a cancer treatment.

16. The use of claim 15, wherein the cancer treatment is selected from one or more of radiotherapy, hormonal therapy, tyrosine kinase inhibitor, anthracycline, alkylating agent, topoisomerase inhibitor, antimetabolites/cytotoxic drug, BRAF inhibitor, antitumor antibiotic, isoquinololine alkaloid, Bcl-2 inhibitor, hematopoietic cell transplantation (HCT), telomerase inhibitor, nucleoside analogue reverse-transcriptase inhibitor, DNA cross-linking agent, ribonucleotide reductase inhibitor, microtubule inhibitor, and miRNA.

17. The use of any one of claims 15-16, wherein the patient was previously afflicted with a cancer.

18. The use of claim 17, wherein the patient is cancer survivor.

19. The use of claim 18, wherein the cancer survivor has completed a cancer treatment and has no apparent evidence of active disease.

20. The use of any one of claims 15-19, wherein the cancer is selected from basal cell carcinoma, biliary tract cancer; bladder cancer; bone cancer; brain and central nervous system cancer; breast cancer; cancer of the peritoneum; cervical cancer; choriocarcinoma; colon and rectum cancer; connective tissue cancer; cancer of the digestive system; endometrial cancer; esophageal cancer; eye cancer; cancer of the head and neck; gastric cancer (including gastrointestinal cancer); glioblastoma; hepatic carcinoma; hepatoma; intra-epithelial neoplasm; kidney or renal cancer; larynx cancer; leukemia; liver cancer; lung cancer (e.g., small-cell lung cancer, non-small cell lung cancer, adenocarcinoma of the lung, and squamous carcinoma of the lung); melanoma; myeloma; neuroblastoma; oral cavity cancer (lip, tongue, mouth, and pharynx); ovarian cancer; pancreatic cancer; prostate cancer; retinoblastoma; rhabdomyosarcoma; rectal cancer; cancer of the respiratory system; salivary gland carcinoma; sarcoma; skin cancer; squamous cell cancer; stomach cancer; testicular cancer; thyroid cancer; uterine or endometrial cancer; cancer of the urinary system; vulval cancer; lymphoma including Hodgkin's and non-Hodgkin's lymphoma, as well as B-cell lymphoma (including low grade/follicular non-Hodgkin's lymphoma (NHL); small lymphocytic (SL) NHL; intermediate grade/follicular NHL; intermediate grade diffuse NHL; high grade immunoblastic NHL; high grade lymphoblastic NHL; high grade small non-cleaved cell NHL; bulky disease NHL; mantle cell lymphoma; AIDS-related lymphoma; and Waldenstrom's Macroglobulinemia; chronic lymphocytic leukemia (CLL); acute lymphoblastic leukemia (ALL); Hairy cell leukemia; chronic myeloblastic leukemia; as well as other carcinomas and sarcomas; and Meigs' syndrome.

21. The use of any one of claims 11-20, wherein the patient is middle-aged, optionally wherein the patient is between 36 and 55 years old.

22. The use of any one of claims 11-20, wherein the patient is elderly, optionally wherein the patient is between 56 and 85 years old.

23. The use of any one of claims 15-22, wherein the patient received the cancer treatment before the age of 18, before the age of 16, before the age of 14, before the age of 12, before the age of 10, before the age of 8, before the age of 6, before the age of 4, or before the age of 2.

24. The use of any one of claims 15-23, wherein the TLR5 agonist is to be administered to the patient for at least one week, or at least one month, or at least six months, or at least one year, or at least two years, or at least three years, or at least four years, or at least five years after the patient received the cancer treatment.

25. The use of any one of claims 15-24, wherein the patient no longer has cancer or the patient is in remission at the time the TLR5 agonist is to be administered.

26. The use of any one of claims 11-25, wherein the administration of the TLR5 agonist to the patient treats or prevents the age-related disease or disorder by decreasing cellular senescence.

27. The use of claim 11, wherein the TLR5 agonist comprises an amino acid sequence that is SEQ ID NO: 1.

28. The use of claim 11, wherein the TLR5 agonist comprises an amino acid sequence of one of SEQ ID NOs: 2-27.

29. The use of any one of claims 11-28, wherein the biological sex of the patient is male or female.

30. The use of any one of the preceding claims, wherein the TLR5 agonist is to be administered in one or more cycles.

31. The use of claim 30, wherein the cycle involves dosing a patient once per day for one day, once a day for two days, once a day for three days, once a day for four days, or once a day for five days.

32. The use of claim 31, wherein no more than 5 cycles, or no more than 3 cycles, or no more than 2 cycles are to be administered per year.

33. Use of a recombinant TLR5 agonist in the manufacture of a medicament for treating or preventing frailty and/or an age-related disease or disorder, wherein

(a) a patient desiring or in need of frailty treatment or prevention is identified, wherein the frailty and/or an age-related disease or disorder comprises an accumulation of age-related

deficiencies in major physiological functions, as measured according to the Physiological Frailty Index, and

(b) said TLR5 agonist is a flagellin, or a derivative thereof, comprising an amino acid sequence having at least 95% sequence identity to SEQ ID NOs: 1-27, and the TLR5 agonist is not fused to a pathogenic protein antigen.