CLAIMS

1. Use of a reverse transcriptase inhibitor (RTI) in the manufacture of a medicament for treating, preventing and/or reversing age-associated inflammation in a patient in need thereof, wherein the RTI comprises 4′-ethynyl-2-fluoro-2′-deoxyadenosine, censavudine or elvucitabine.

2. The use of claim 1, wherein the age-associated inflammation is associated with an upregulation of long-interspersed element-1 (L1), an accumulation of cytoplasmic long-interspersed element-1 (L1) cDNA, an activation of a type-I interferon (IFN-I) response, and a reinforcement of a Senescence-Associated Secretory Phenotype (SASP) pro-inflammatory state.

3. The use of claim 2, wherein the RTI is to be administered in an amount sufficient to prevent or reverse the upregulation of L1.

4. The use of claim 2, wherein the RTI is to be administered in an amount sufficient to prevent or reverse the accumulation of cytoplasmic L1 cDNA.

5. The use of claim 2, wherein the RTI is to be administered in an amount sufficient to prevent or reverse the activation of the IFN-I response.

6. The use of claim 2, wherein the RTI is to be administered in an amount sufficient to prevent or reverse the SASP pro-inflammatory state.

7. The use of any one of claims 1-6, wherein the age-associated inflammation is in a patient in need of wound healing or tissue regeneration or having a disease or disorder selected from the group consisting of: Alzheimer's disease, amyotrophic lateral sclerosis (ALS), Parkinson's disease, Huntington's disease, vision loss, hearing loss, peripheral degenerative diseases, or cardiovascular dysfunction, frontotemporal dementia (FTD), multiple sclerosis (MS), Aicardi Goutiere’s syndrome, progressive supra nuclear palsy (PSP), osteoarthritis, skin aging, atherosclerosis, chemotherapy-induced adverse effects, hematopoietic stem cell function, osteoporosis, physical function, and pulmonary fibrosis.

8. The use of any one of claims 1-6, wherein the age-associated inflammation is in a patient having Alzheimer's disease.

9. The use of any one of claims 1-6, wherein the age-associated inflammation is in a patient having ALS.

10. Use of an RTI in the manufacture of a medicament for delaying or reversing the progression of the underlying pathology of a disorder caused by age-associated inflammation, wherein the RTI comprises 4′-ethynyl-2-fluoro-2′-deoxyadenosine, censavudine or elvucitabine.

11. The use of claim 10, wherein the patient has Alzheimer's disease or ALS and experiences a decrease in one or more symptoms of Alzheimer's disease or ALS compared to before the first administration to the patient.

12. The use of claim 11, wherein the patient has Alzheimer's disease and the one or more symptoms comprise memory loss, misplacing items, forgetting the names of places or objects, repeating questions, being less flexible, confusion, disorientation, obsessive behavior, compulsive behavior, delusions, aphasia, disturbed sleep, mood swings, depression, anxiety, frustration, agitation, difficulty in performing spatial tasks, agnosia, difficulty with ambulation, weight loss, loss of speech, loss of short term memory or loss of long term memory.

13. The use of claim 10, wherein the patient has Alzheimer's disease and the decrease in the one or more symptoms are evaluated according to the DSM-5.

14. The use of claim 10, wherein the patient has Alzheimer's disease and the decrease of symptoms is determined using the cognitive subscale of the Alzheimer's Disease Assessment Scale (ADAS-cog).

15. The use of claim 10, wherein the patient has Alzheimer's disease and the decrease of symptoms is determined using the Clinician's Interview-Based Impression of Change (CIBIC-plus).

16. The use of claim 10, wherein the patient has Alzheimer's disease and the decrease of symptoms is determined using the Activities of Daily Living Scale (ADL).

17. The use of any one of claims 11-16, wherein any change in the underlying pathology is identified by detection of a biomarker before and after the RTI administration.

18. The use of claim 17, wherein the biomarker is β-amyloid or Tau protein.

19. The use of claim 17 or 18, wherein the biomarker is detected by PET imaging.

20. The use of claim 17 or 18, wherein the biomarker is detected by measurement in the cerebrospinal fluid.

21. The use of any one of claims 1-20 further comprising administering at least one second therapeutic agent to the patient.

22. The use of claim 21, wherein the patient has Alzheimer's disease and the at least one second therapeutic agent is useful for the treatment of the symptoms of Alzheimer's disease.

23. The use of claim 21, wherein the patient has ALS and the at least one second therapeutic agent is useful for the treatment of ALS.