

WHAT IS CLAIMED IS:

1. A method of treating an infection, comprising administering to a subject a composition comprising an anti-AGE antibody.
2. A method of treating an infection, comprising administering to a subject a composition comprising a first anti-AGE antibody and a second anti-AGE antibody; wherein the second anti-AGE antibody is different from the first anti-AGE antibody.
3. A method of treating a subject with an infection, comprising:
a first administering of an anti-AGE antibody; followed by
testing the subject for effectiveness of the first administration at treating the infection; followed by
a second administering of the anti-AGE antibody.
4. A composition for treating an infection, comprising
(a) a first anti-AGE antibody,
(b) a second anti-AGE antibody, and
(c) a pharmaceutically acceptable carrier,
wherein the first anti-AGE antibody is different from the second anti-AGE antibody.
5. A method of treating an infection, comprising immunizing a subject in need thereof against AGE-modified proteins or peptides of a cell.
6. A method of treating a subject with an infection, comprising:
administering a first vaccine comprising a first AGE antigen; and
optionally, administering a second vaccine comprising a second AGE antigen;
wherein the second AGE antigen is different from the first AGE antigen.

7. The method or composition of any of the preceding claims, wherein the infection is a viral infection.

8. The method or composition of any of the preceding claims, wherein the infection is a bacterial infection.

9. The method or composition of any of the preceding claims, wherein the infection is a parasitic infection.

10. The method or composition of any of the preceding claims, wherein the composition further comprises a pharmaceutically acceptable carrier.

11. The method or composition of any of the preceding claims, wherein the subject is selected from the group consisting of humans, goats, sheep, cows, horses, dogs and cats.

12. The method or composition of any of the preceding claims, wherein the anti-AGE antibody is non-immunogenic to a species selected from the group consisting of humans, cats, dogs, horses, camels, alpaca, cattle, sheep, and goats.

13. The method or composition of any of the preceding claims, wherein the anti-AGE antibody is administered intravenously.

14. The method or composition of any of the preceding claims, wherein the anti-AGE antibody is administered locally.

15. The method or composition of any of the preceding claims, wherein the anti-AGE antibody binds an AGE antigen comprising at least one protein or peptide that exhibits AGE modifications selected from the group consisting of FFI, pyrraline, AFGP, ALI, carboxymethyllysine, carboxyethyllysine and pentosidine.

16. The method or composition of any of the preceding claims, wherein the first anti-AGE antibody and the second anti-AGE antibody each independently bind

AGE antigens comprising at least one protein or peptide that exhibit different AGE modifications selected from the group consisting of FFI, pyrraline, AFGP, ALI, carboxymethyllysine, carboxyethyllysine and pentosidine.

17. The method or composition of any of the preceding claims, wherein the composition is in unit dosage form.

18. The method or composition of any of the preceding claims, wherein the composition is in multidosage form.

19. The method or composition of any of the preceding claims, wherein the composition is sterile.

20. The method or composition of any of the preceding claims, wherein the immunizing comprises administering a vaccine comprising an AGE antigen.

21. The method or composition of any of the preceding claims, wherein the vaccine comprises

- (a) the AGE antigen,
- (b) an adjuvant,
- (c) optionally, a preservative, and
- (d) optionally, an excipient.

22. The method or composition of any of the preceding claims, wherein the AGE antigen is an AGE-modified protein or peptide selected from the group consisting of AGE-RNase, AGE-human hemoglobin, AGE-albumin, AGE-BSA, AGE-human serum albumin, AGE-ovalbumin, AGE-low density lipoprotein, AGE-collagen IV, AGE-antithrombin III, AGE-calmodulin, AGE-insulin, AGE-ceruloplasmin, AGE-collagen, AGE-cathepsin B, AGE-crystallin, AGE-plasminogen activator, AGE-endothelial plasma membrane protein, AGE-aldehyde reductase, AGE-transferrin, AGE-fibrin, AGE-copper/zinc SOD, AGE-apo B, AGE-fibronectin, AGE-pancreatic ribose, AGE-apo A-I and II, AGE-hemoglobin, AGE- Na^+/K^+ -ATPase, AGE-

plasminogen, AGE-myelin, AGE-lysozyme, AGE-immunoglobulin, AGE-red cell Glu transport protein, AGE- β -N-acetyl hexokinase, AGE-apo E, AGE-red cell membrane protein, AGE-aldose reductase, AGE-ferritin, AGE-red cell spectrin, AGE-alcohol dehydrogenase, AGE-haptoglobin, AGE-tubulin, AGE-thyroid hormone, AGE-fibrinogen, AGE- β_2 -microglobulin, AGE-sorbitol dehydrogenase, AGE- α_1 -antitrypsin, AGE-carbonate dehydratase, AGE-hexokinase, AGE-apo C-I, AGE-KLH and mixtures thereof.

23. The method or composition of any of the preceding claims, further comprising testing the patient to determine if the viral infection has been ameliorated, and

repeating the immunizing, if necessary.

24. The method or composition of any of the preceding claims, further comprising testing the patient to determine if the bacterial infection has been ameliorated, and

repeating the immunizing, if necessary.

25. The method or composition of any of the preceding claims, further comprising testing the patient to determine if the parasitic infection has been ameliorated, and

repeating the immunizing, if necessary.

26. The method or composition of any of the previous claims, wherein the antibody comprises

a first complementary determining region comprising the amino acid sequence of SEQ ID NO: 23,

a second complementary determining region comprising the amino acid sequence of SEQ ID NO: 24,

a third complementary determining region comprising the amino acid sequence of SEQ ID NO: 25,

a fourth complementary determining region comprising the amino acid sequence of SEQ ID NO: 26,

a fifth complementary determining region comprising the amino acid sequence of SEQ ID NO: 27, and

a sixth complementary determining region comprising the amino acid sequence of SEQ ID NO: 28.

27. The method or composition of any of the previous claims, wherein the antibody comprises

a first complementary determining region comprising the amino acid sequence of SEQ ID NO: 41,

a second complementary determining region comprising the amino acid sequence of SEQ ID NO: 42,

a third complementary determining region comprising the amino acid sequence of SEQ ID NO: 43,

a fourth complementary determining region comprising the amino acid sequence of SEQ ID NO: 44,

a fifth complementary determining region comprising the amino acid sequence of SEQ ID NO: 45, and

a sixth complementary determining region comprising the amino acid sequence of SEQ ID NO: 46.

28. The method or composition of any of the previous claims, wherein the antibody comprises

a heavy chain, and

a light chain,

wherein the heavy chain comprises an amino acid sequence having at least 90% sequence identity, preferably at least 95% sequence identity, more preferably at least 98% sequence identity, with an amino acid sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 17, SEQ ID NO: 29, SEQ ID NO: 31, SEQ ID NO: 33, SEQ ID NO: 48, SEQ ID NO: 49, SEQ ID NO: 50, and SEQ ID NO: 51, and

the light chain comprises an amino acid sequence having at least 90% sequence identity, preferably at least 95% sequence identity, more preferably at least 98% sequence identity, with an amino acid sequence selected from the group consisting of SEQ ID NO: 3, SEQ ID NO: 19, SEQ ID NO: 35, SEQ ID NO: 37, SEQ ID NO: 39, SEQ ID NO: 58, SEQ ID NO: 59, SEQ ID NO: 60, and SEQ ID NO: 61.

29. The method or composition of any of the previous claims, wherein the antibody comprises a constant region from a species selected from the group consisting of humans, goats, sheep, pigs, cows, horses, camels, alpacas, dogs and cats.

30. The method or composition of any of the preceding claims, wherein the antibody is a humanized antibody.

31. The method or composition of any of the preceding claims, wherein the antibody is monoclonal.

32. The method or composition of any of the preceding claims, wherein the antibody is substantially non-immunogenic to humans.

33. The method or composition of any of the preceding claims, wherein the antibody has a rate of dissociation (k_d) of at most $9 \times 10^{-3} \text{ sec}^{-1}$.

34. The method or composition of any of the preceding claims, wherein the antibody is conjugated to an agent that causes the destruction of AGE-modified cells.

35. The method or composition of any of the preceding claims, wherein the agent is selected from the group consisting of a toxin, a cytotoxic agent, magnetic nanoparticles, and magnetic spin-vortex discs.

36. The method or composition of any of the preceding claims, wherein the antibody includes constant regions which permit destruction of targeted cells by a subject's immune system.

37. The method or composition of any of the preceding claims, wherein the AGE antigen comprises carboxymethyllysine conjugated with keyhole limpet hemocyanin (CML-KLH).

38. The method or composition of any of the preceding claims, wherein the viral infection comprises at least one viral infection selected from the group consisting of influenza, influenza A virus subtype H5N1, coronaviruses, Middle East respiratory syndrome-related coronavirus (MERS-CoV), severe acute respiratory syndrome-related coronavirus (SARS-CoV), severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), and Ebola virus.

39. The method or composition of any of the preceding claims, wherein the viral infection comprises severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2).

40. The method or composition of any of the preceding claims, wherein the viral infection is caused by at least one virus selected from the group consisting of herpesvirus, poxvirus, hepadnavirus, asfivirus, flavivirus, alphavirus, togavirus, coronavirus, hepatitis D, orthomyxovirus, paramyxovirus, rhabdovirus, bunyavirus, filovirus, human respiratory syncytial virus, retroviruses, adenoviruses, papilloma viruses, polyomavirus, Epstein-Barr virus (EBV), human cytomegalovirus (HCMV), hepatitis B virus (HBV), hepatitis C virus (HCV), herpes simplex virus (HSV), human papilloma virus (HPV), Kaposi's sarcoma-associated herpesvirus (KSHV), human immunodeficiency virus (HIV) and poliovirus.

41. The method or composition of any of the preceding claims, wherein the anti-AGE antibody binds an AGE-modified protein or peptide on a viral envelope.

42. The method or composition of any of the preceding claims, wherein the bacterial infection is caused by at least one bacterial species selected from the group consisting of: *Chlamydia trachomatis*, *Mycobacterium tuberculosis* and *Pseudomonas aeruginosa*.

43. The method or composition of any of the preceding claims, wherein the parasitic infection is caused by at least one parasite selected from the group consisting of: *Plasmodium*, *Leishmania*, *Trypanosoma* and *Toxoplasma*.

44. The method or composition of any of the preceding claims, wherein the infection is a fungal infection.