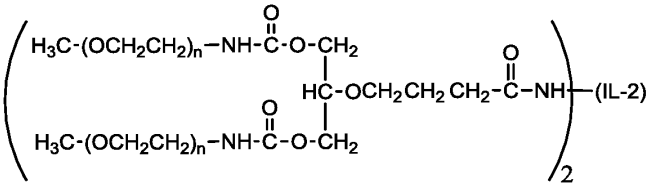
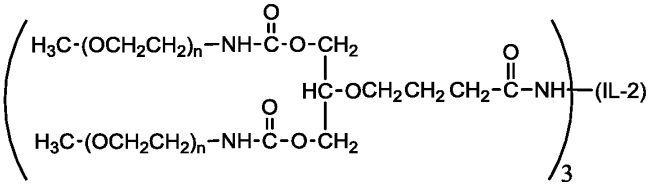
WHAT IS CLAIMED:

1. A composition comprising PEGylated IL-2 conjugates having a structure:



, and



;

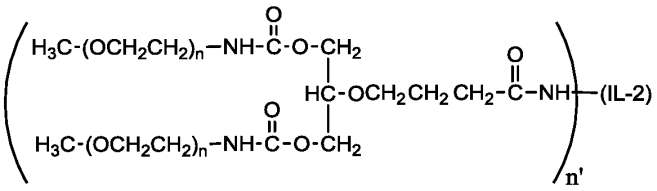
wherein:

IL-2 is an interleukin-2;

n is independently at each occurrence an integer from about 3 to about 4000.

2. The composition of claim 1, wherein IL-2 is aldesleukin.

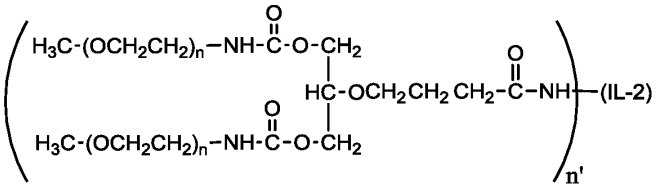
3. The composition of claim 2, wherein the composition comprises no more than about 20 mole percent of PEGylated IL-2 conjugates, when considered collectively, encompassed by the formula



,

wherein n' is selected from 1, 4, 5, or an integer greater than 5.

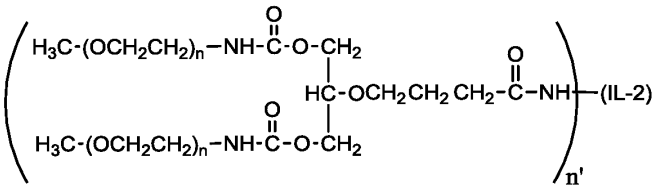
4. The composition of claim 3, wherein the composition comprises no more than about 15 mole percent of PEGylated IL-2 conjugates, when considered collectively, encompassed by the formula



,

wherein n' is selected from 1, 4, 5, or an integer greater than 5.

5. The composition of claim 3, wherein the composition comprises no more than about 10 mole percent of PEGylated IL-2 conjugates, when considered collectively, encompassed by the formula



,

wherein n' is selected from 1, 4, 5, or an integer greater than 5.

6. The composition of any one of claims 3-5, comprising no more than about 10 mol% of PEGylated IL-2 conjugates having n' equal to 1.

7. The composition of any one of claims 3-5, comprising no more than about 7 mol% of PEGylated IL-2 conjugates having n' equal to 1.

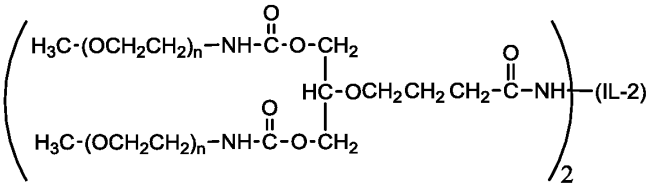
8. The composition of any one of claims 3-5, comprising no more than about 5 mol% of PEGylated IL-2 conjugates having n' equal to 1.

9. The composition of any one of claims 3-8, comprising no more than about 10 mol% of PEGylated IL-2 conjugates having n' equal to 4.

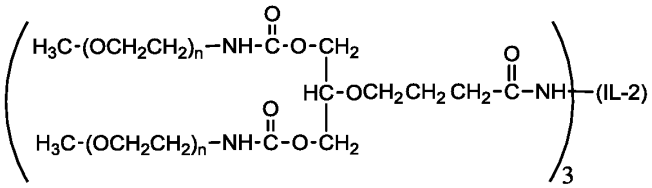
10. The composition of any one of claims 3-8, comprising no more than about 7 mol% of PEGylated IL-2 conjugates having n' equal to 4.

11. The composition of any one of claims 3-8, comprising no more than about 5 mol% of PEGylated IL-2 conjugates having n' equal to 4.

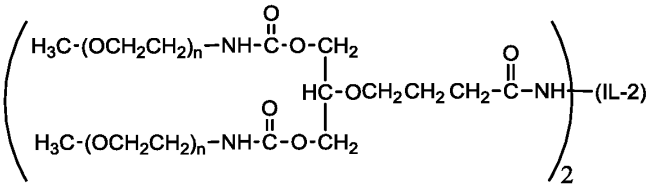
12. A composition comprising a mixture of PEGylated IL-2 conjugates of claim 1, wherein the composition comprises approximately equimolar amounts of



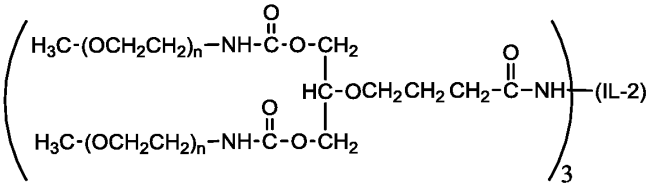
, and



13. A composition comprising a mixture of PEGylated IL-2 conjugates of claim 2, wherein the composition comprises PEGylated IL-2 conjugates having a formula



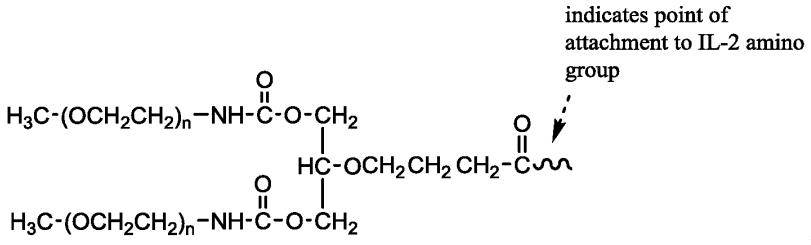
(II); and



(III);

wherein the molar ratio of (II)/(III) is selected from the group consisting of 1.4:1; 1.3:1; 1.2:1; 1.1:1; 1:1; 1:1.1; 1:1.2; 1:1.3; and 1:1.4.

14. The composition of claim 13, having an average number of branched polyethylene glycol



moieties, , per aldesleukin is selected from the group consisting of 2; 2.1; 2.2; 2.3; 2.4; 2.5; 2.6; 2.6; 2.7; 2.8; 2.9; and 3.

15. The composition of claim 13, wherein the average number of branched polyethylene glycol moieties per aldesleukin is about 2.5.

16. The composition of any one of claims 1-15, wherein the value of n ranges from 5-2000.

17. The composition of any one of claims 1-15, wherein the value of n ranges from 10-1000.

18. The composition of any one of claims 1-15, wherein the value of n ranges from 10-750.

19. The composition of any one of claims 1-15, wherein the value of n ranges from 10-500.

20. The composition of any one of claims 1-15, wherein the value of n ranges from 20-250.

21. The composition of any one of claims 1-15, wherein the average value of n is about 226.

22. The composition of any one of claims 1-15, wherein the nominal average molecular weight of each branched polyethylene glycol moiety is in a range of from about 250 daltons to about 90,000 daltons.

23. The composition of any one of claims 1-15, wherein the nominal average molecular weight of each branched polyethylene glycol moiety is in a range of from about 1000 daltons to about 60,000 daltons.

24. The composition of any one of claims 1-15, wherein the nominal average molecular weight of each branched polyethylene glycol moiety is in a range of from about 5,000 daltons to about 60,000 daltons.

25. The composition of any one of claims 1-15, wherein the nominal average molecular weight of each branched polyethylene glycol moiety is in a range of from about 10,000 daltons to about 55,000 daltons.

26. The composition of claim 1 or 2 comprising, on a molar basis, about 5 mol % or less mono-PEGylated IL-2 conjugates, and from about 28 mol % to about 60 mol % di-PEGylated IL-2 conjugates, and from about 24 mol % to about 65 mol % tri-PEGylated IL-2 conjugates, and about 12 mol % or less of higher PEGylated IL-2 conjugates, and wherein the nominal average molecular weight of each branched polyethylene glycol moiety is about 20,000 daltons.

27. The composition of claim 26 which further comprises 80% or greater combined di- and tri-PEGylated IL-2 conjugates.

28. The composition of claim 1 or 2 comprising, on a molar basis, from about 2.5 to about 4.5 mol % mono-PEGylated IL-2 conjugates, and from about 35 to about 50 mol % di-PEGylated IL-2 conjugates, and from about 38 to about 46 mol % tri-PEGylated IL-2 conjugates, and from about 3 to about 10 mol% higher PEGylated IL-2 conjugates, and wherein the nominal average molecular weight of each branched polyethylene glycol moiety is about 20,000 daltons.

29. The composition of claim 28 which further comprises a combined total of di-PEGylated and tri-PEGylated IL-2 conjugates from about 80 to about 95 mol %.

30. The composition of claim 1 or 2 comprising, on a molar basis, from about 2.8 to about 3.8 mol % mono-PEGylated IL-2 conjugates, and from about 44 to about 48 mol % di-PEGylated IL-2 conjugates, and from about 41 to about 44 mol % tri-PEGylated IL-2 conjugates, and from about 7 to about 9 mol% higher PEGylated IL-2 conjugates, and wherein the nominal average molecular weight of each branched polyethylene glycol moiety is about 20,000 daltons.

31. The composition of claim 30 which further comprises a combined total of di-PEGylated and tri-PEGylated IL-2 conjugates from about 87 to about 90 mol %.

32. The composition of claim 1 or 2 comprising, on a molar basis, from about 2.8 to about 3.8 mol % mono-PEGylated IL-2 conjugates, and from about 44 to about 48 mol % di-PEGylated IL-2 conjugates, and from about 41 to about 44 mol % tri-PEGylated IL-2 conjugates, and from about 7 to about 9 mol% higher PEGylated IL-2 conjugates, and wherein said composition comprises a mixture of mono-PEGylated IL-2 conjugates which have a PEG moiety attached at one of lysine K7 or K8 or K31 or K75, and wherein the nominal average molecular weight of each branched polyethylene glycol moiety is about 20,000 daltons.

33. The composition of claim 32 which further comprises a combined total of di-PEGylated and tri-PEGylated IL-2 conjugates from about 87 to about 90 mol %.

34. The composition of claim 1 or 2 comprising, on a molar basis, from about 2.8 to about 3.8 mol % mono-PEGylated IL-2 conjugates, and from about 44 to about 48 mol % di-PEGylated IL-2 conjugates, and from about 41 to about 44 mol % tri-PEGylated IL-2 conjugates, and from about 7 to about 9 mol% higher PEGylated IL-2 conjugates, and wherein said composition comprises mono-PEGylated IL-2 conjugates which have a PEG moiety attached at lysine K7, wherein the nominal average molecular weight of each branched polyethylene glycol moiety is about 20,000 daltons.

35. The composition of claim 34 which further comprises a combined total of di-PEGylated and tri-PEGylated IL-2 conjugates from about 87 to about 90 mol %.

36. The composition of any one of claims 1-35, further comprising a pharmaceutically acceptable excipient.

37. The composition of any one of claims 1-35, in a form suitable for parenteral administration.

38. The composition of any one of claims 1-35, in a form suitable for subcutaneous administration.

39. The composition of claim 36, comprising an aqueous diluent.

40. The composition of claim 39, having a pH of about 5.

41. The composition of claim 39 or claim 40, further comprising sodium acetate, sodium chloride and sucrose.

42. The composition of claim 37, comprising 1.5 mg/ml protein equivalent, 10 mM sodium acetate, 110 mM sodium chloride, 2% sucrose (w/v), pH 5.0.

43. A method of increasing the ratio of regulatory T cells to effector T cells in a subject by administering to the subject a therapeutically effective dose of a composition of any one of claims 1-42.

44. The method of claim 43, wherein the regulatory T cells are selected from Foxp3+ and CD25+ cells.

45. The method of claim 44, wherein the effector T cells are selected from CD4+ and CD8+ cells.

46. The method of any one of claims 43-45, wherein the fold-increase in regulatory T cells, when compared to baseline, reaches a value of at least about 2 when evaluated in an in-vivo mouse model.

47. The method of any one of claims 43-45, wherein the fold increase in regulatory T cells, when compared to baseline, reaches a value of at least about 4 when evaluated in an in-vivo mouse model.

48. The method of any one of claims 43-47, wherein the increase in regulatory T cell numbers is sustained above baseline levels for at least 3 days post-administration.

49. The method of claim 43, wherein the increase in regulatory T cell numbers is sustained above baseline levels for at least 5 days post-administration.

50. A method of treating a subject having an autoimmune disease, comprising administering to the subject a therapeutically effective amount of a composition of any one of claims 1-42.

51. The method of claim 50, wherein said administering is by subcutaneous injection.

52. The method of any one of claims 50-51, wherein said administering is carried out once every 2 weeks or once every 4 weeks.

53. The method of any one of claims 50-52, wherein said administering comprises a dose of between 3-24 μg/kg once every two weeks.

54. A composition according to any one of claims 1-42 for use in therapy.

55. A composition according to any one of claims 1-42 for use in the treatment of an autoimmune disease.

56. Use of a composition according to any one of claims 1-42 for the manufacture of a medicament for treating an autoimmune disease.