WHAT IS CLAIMED IS:

1. An immunogenic composition comprising:

(i) at least 1, 2, 3, 4, 5, 6, or all of TRP153, TRP36, TRP140, TRP28, TRP95, TRP 19, or TRP120; and at least 1, 2, 3, 4, 5, or more peptides comprising or consisting of a peptide of any one of SEQ ID NOs:1-16;

(ii) at least 2, 3, 4, 5, or all of TRP153, TRP36, TRP140, TRP28, TRP95, TRP19 or TRP120;

(iii) an *E. canis* bacterin and at least 1, 2, 3, 4, 5, 6, or all of TRP153, TRP36, TRP140, TRP28, TRP95, TRP19, or TRP120;

(iv) an *E. canis* bacterin and at least 1, 2, 3, 4, 5, or more peptides comprising or consisting of a peptide of any one of SEQ ID NOs:1-16; or

(v) an *E. canis* bacterin, at least 1, 2, 3, 4, 5, 6, or all of TRP153, TRP36, TRP140, TRP28, TRP95, TRP19, TRP120 and at least 1, 2, 3, 4, 5, or more peptides comprising or consisting of a peptide of any one of SEQ ID NOs:1-16;

and a pharmaceutically acceptable excipient.

2. The immunogenic composition of claim 1, wherein the pharmaceutically acceptable excipient comprises or consists of an adjuvant.

3. The immunogenic composition of claim 2, wherein the adjuvant comprises a triterpenoid saponin, a sterol, and an immunostimulatory oligonucleotide.

4. The immunogenic composition of claim 3, wherein the triterpenoid saponin is Quil A.

5. The immunogenic composition of any one of claims 3-4, wherein the sterol is cholesterol.

6. The immunogenic composition of any one of claims 3-5, wherein the immunostimulatory oligonucleotide is a CpG-containing ODN.

7. The immunogenic composition of claim 3, wherein the triterpenoid saponin is Quil A, the sterol is cholesterol, and the immunostimulatory oligonucleotide is a CpG-containing ODN.

8. The immunogenic composition of any one of claims 6-7, wherein the CpG-containing ODN is 5’ JU*C-G*T*C*G*A*C*G*A*T*C*G*G*C*G*G*C*C*G*C*C* G*T 3' (SEQ ID NO:17), wherein “*” refers to a phosphorothioate bond, “-” refers to a phosphodiester bond, and “JU” refers to 5'-Iodo-2'-deoxyuridine.

9. The immunogenic composition of claim 7, wherein the composition comprises at least one of TRP140, TRP36, and/or TRP19.

10. The immunogenic composition of claim 9, wherein the composition comprises at least two of TRP140, TRP36, and/or TRP19.

11. The immunogenic composition of claim 10, wherein the composition comprises TRP140, TRP36, and TRP19.

12. The immunogenic composition of claim 7, wherein the composition comprises a chimeric protein comprising 1, 2, or all of TRP140, TRP36, and/or TRP19.

13. The immunogenic composition of claim 7, wherein the composition comprises a polypeptide comprising 1, 2, or all of SEQ ID NO:1, SEQ ID NO:3, and/or SEQ ID NO:14.

14. The immunogenic composition of any of claims 2-13, wherein the adjuvant is an emulsion or liposomes, or wherein the adjuvant comprises a lipid.

15. The immunogenic composition of claim 14, wherein the emulsion is an oil-in-water (O/W) emulsion or a water-in-oil (W/O) emulsion.

16. The immunogenic composition of claim 2, wherein the adjuvant comprises a triterpenoid, a sterol, an immunomodulator, a polymer, and/or an immunostimulatory oligonucleotide.

17. The immunogenic composition of claim 16, wherein the polymer is diethyl-aminoethyl (DEAE)-dextran, polyethelyne glycol, or polyacrylic acid.

18. The immunogenic composition of any of claims 16-17, wherein the immunostimulatory oligonucleotide is a CpG containing ODN.

19. The immunogenic composition of any of claims 16-18, wherein the adjuvant comprises DEAE Dextran, an immunostimulatory oligonucleotide, and oil such as mineral oil, wherein

the immunostimulatory oligonucleotide is a CpG containing ODN, and wherein the adjuvant formulation is a water-in-oil (W/O) emulsion.

20. The immunogenic composition of claim 2, wherein the adjuvant comprises a saponin, a sterol, a quaternary ammonium compound, a polymer, and an ORN/ODN.

21. The immunogenic composition of claim 20, wherein the saponin is Quil A or a purified faction thereof, the sterol is cholesterol, the quaternary ammonium compound is dimethyl dioctadecyl ammonium bromide (DDA), the polymer is polyacrylic acid, and the ORN/ODN is a CpG.

22. The immunogenic composition of claim 21, wherein the saponin is present in an amount of about 1 µg to about 5,000 µg per dose, the sterol is present in an amount of about 1 µg to about 5,000 µg per dose, the quaternary ammonium compound is present in an amount of about 1 µg to about 5,000 µg per dose, and the polymer is present in an amount of about 0.0001% v/v to about 75% v/v.

23. The immunogenic composition of any one of claims 21-22, wherein the adjuvant further comprises a glycolipid.

24. The immunogenic composition of claim 23, wherein the glycolipid is N-(2-deoxy-2-L-leucylamino-β-D-glucopyranosyl)-N-octadecyldodecanamide acetate.

25. The immunogenic composition of claim 2, wherein the adjuvant comprises a triterpenoid saponin, a sterol, a quaternary ammonium compound, and a polyacrylic acid polymer.

26. The immunogenic composition of claim 25, wherein the saponin is Quil A or a purified fraction thereof, the sterol is cholesterol, and the quaternary ammonium compound is dimethyl dioctadecyl ammonium bromide (DDA).

27. The immunogenic composition of any one of claims 25-26, wherein the saponin is present in an amount of about 1 mg to about 5,000 mg per dose, the sterol is present in an amount of about 1 mg to about 5,000 mg per dose, the quaternary ammonium compound is present in an amount of about 1 mg to about 5,000 mg per dose, and the polyacrylic acid polymer is present in an amount of about 0.0001% v/v to about 75% v/v.

28. The immunogenic composition of claim 2, wherein the adjuvant comprises a water-in-oil emulsion.

29. The immunogenic composition of claim 28, wherein the water-in-oil emulsion comprises an oily phase and an aqueous phase, a polycationic carrier (*e.g.*, DEAE dextran), and a CpG containing immunostimulatory oligonucleotide.

30. The immunogenic composition of claim 29, wherein the composition further comprises an aluminum hydroxide gel.

31. The immunogenic composition of any one of claims 29-30, wherein the polycationic carrier is DEAE dextran.

32. The immunogenic composition of claim 2, wherein the composition comprises an emulsion or an oil-in-water (O/W) emulsion.

33. The immunogenic composition of claim 32, wherein the emulsion comprises an aqueous phase that comprises an alkyl-polyacrylic acid (alkyl-PAA) or both an acrylic polymer and dimethyl dioctadecyl ammonium bromide (DDA).

34. The immunogenic composition of claim 33, wherein the aqueous phase of the oil-in-water emulsion comprises dimethyl dioctadecyl ammonium bromide (DDA) and an alkyl-polyacrylic acid (alkyl-PAA).

35. The immunogenic composition of claim 34, wherein the alkyl-PAA is decyl-PAA, octyl-PAA, butyl-PAA, or methyl-PA.

36. The immunogenic composition of any of claims 33-35, wherein the acrylic polymer is a polymer of acrylic acid crosslinked with polyallyl sucrose.

37. The immunogenic composition of claim 2, wherein the composition comprises a water-in-oil (W/O) emulsion comprising a non-mineral oil and an emulsifier.

38. The immunogenic composition of claim 37, wherein the emulsifier is a mannide mono-oleate emulsifier.

39. The immunogenic composition of claim 2, wherein the adjuvant is MF59, AS01, AS02, AS03, AS04, Virosomes, CAF01, CAF04, CAF05, an acrylic polymer / DDA emulsion, a

CpG/DEAE emulsion, a saponin/ cholesterol/ DDA adjuvant, or a polyacrylic acid polymer emulsion.

40. The immunogenic composition of any one of claims 1-39, at least 2, 3, 4, or all of TRP153, TRP36, TRP140, TRP28, TRP95.

41. The immunogenic composition of any one of claims 1-39, wherein the composition comprises (TRP153 and TRP36), (TRP153 and TRP140), (TRP153 and TRP28), (TRP153 and TRP95), (TRP36 and TRP140), (TRP36 and TRP28), (TRP36 and TRP95), (TRP140 and TRP28), (TRP140 and TRP95), (TRP28 and TRP95), (TRP19 and TRP153), (TRP19 and TRP36), (TRP19 and TRP140), (TRP19 and TRP28), (TRP19 and TRP95), (TRP120 and TRP153), (TRP120 and TRP36), (TRP120 and TRP140), (TRP120 and TRP28), (TRP120 and TRP95), or (TRP120 and TRP19).

42. The immunogenic composition of claim 41, wherein the composition comprises TRP120, TRP140, and TRP36.

43. The immunogenic composition of claim 41, wherein the composition comprises TRP140, TRP36, and TRP19.

44. The immunogenic composition of claim 41, wherein the composition further comprises an *E. canis* bacterin.

45. The immunogenic composition of claim 41, wherein the *E. canis* bacterin is a heat-inactivated or chemically-inactivated bacterin.

46. The immunogenic composition of claim 45, wherein the chemically-inactivated bacterin was inactivated with formaldehyde, formalin, bi-ethylene amine, radiation, ultraviolet light, beta-propiolactone treatment, or formaldehyde.

47. The immunogenic composition of any one of claims 1-39, wherein the composition comprises: (SEQ ID NO:2 and at least one of (SEQ ID NOs:3-11 or 16)), (SEQ ID NO:2 and at least one of SEQ ID NOs:12-13), (SEQ ID NO:2 and SEQ ID NO:14), (at least one of (SEQ ID NOs:3-11 or 16) and at least one of SEQ ID NOs:12-13), (at least one of (SEQ ID NOs:3-11 or 16) and SEQ ID NO:14), (at least one of SEQ ID NOs:12-13 and SEQ ID NO:14), (SEQ ID NO:1 and SEQ ID NO:2), (SEQ ID NO:1 and at least one of (SEQ ID NOs:3-11 or 16)), (SEQ ID NO:1 and at least one of SEQ ID NOs:12-13), (SEQ ID NO:1 and SEQ ID NO: 14),

(SEQ ID NO: 15 and SEQ ID NO:2), (SEQ ID NO: 15 and at least one of (SEQ ID NOs:3-11 or 16)), (SEQ ID NO: 15 and at least one of SEQ ID NOs:12-13), (SEQ ID NO: 15 and SEQ ID NO:14), or (SEQ ID NO: 15 and SEQ ID NO: 1).

48. The immunogenic composition of claim 47, wherein the composition comprises: SEQ ID NO:15, SEQ ID NO:14, and (any one of SEQ ID NOs:3-11 or 16).

49. The immunogenic composition of claim 47, wherein the composition comprises SEQ ID NO:14, SEQ ID NO:15, and SEQ ID NO:1.

50. The immunogenic composition of claim 47, wherein the composition further comprises an *E. canis* bacterin.

51. The immunogenic composition of claim 47, wherein the *E. canis* bacterin is a heat-inactivated or chemically-inactivated bacterin.

52. The immunogenic composition of claim 51, wherein the chemically-inactivated bacterin was inactivated with formaldehyde, formalin, bi-ethylene amine, radiation, ultraviolet light, beta-propiolactone treatment, or formaldehyde.

53. The immunogenic composition of any one of claims 1-39, wherein the composition comprises an *E. canis* bacterin.

54. The immunogenic composition of claim 53, wherein the *E. canis* bacterin is a heat-inactivated or chemically-inactivated bacterin.

55. The immunogenic composition of claim 54, wherein the chemically-inactivated bacterin was inactivated with formaldehyde, formalin, bi-ethylene amine, radiation, ultraviolet light, beta-propiolactone treatment, or formaldehyde.

56. A method of determining exposure to or infection by *Ehrlicia* or *E. canis*, in a sample obtained from a mammalian subject, comprising:

testing the biological sample for immunoreactivity to TRP120, TRP140, and/or TRP36, or a peptide thereof, such as any of SEQ ID NOs: 3-11, 14, 15, or 16;

wherein immunoreactivity to TRP120, TRP140, and/or TRP36 indicates that subject has been exposed to or infected by *Ehrlicia* or *E. canis*.

57. The method of claim 56, wherein the mammalian subject is a dog.

58. The method of any one of claims 56-57, wherein the method comprises testing the biological sample for immunoreactivity to TRP120 and TRP36, or an immunoreactive peptide thereof, such as any of SEQ ID NOs: 3-11, 14, or 16.

59. The method of claim 58, wherein the method comprises testing the biological sample for immunoreactivity to TRP120, TRP140, and TRP36, or an immunoreactive peptide thereof, such as any of SEQ ID NOs: 3-11, 14, 15, or 16.

60. The method of any one of claims 56-58, wherein if the method determines that the subject had been exposed to or infected by *Ehrlicia* or *E. canis,* the mammalian subject is to be administered a pharmacologically relevant or therapeutically relevant amount of an antibiotic.

61. The method of claim 60, wherein the antibiotic is doxycycline.

62. Use of an immunogenic composition of any one of claims 1-55 in the manufacture of a medicament for inducing an immune response in a mammalian subject.

63. The use of claim 62, wherein the immunogenic composition comprises an adjuvant, and wherein the adjuvant comprises a triterpenoid saponin, a sterol, and an immunostimulatory oligonucleotide.

64. The use of claim 63, wherein the triterpenoid saponin is Quil A.

65. The use of any one of claims 63-64, wherein the sterol is cholesterol.

66. The use of any one of claims 63-65, wherein the immunostimulatory oligonucleotide is a CpG-containing ODN.

67. The use of claim 63, wherein the triterpenoid saponin is Quil A, the sterol is cholesterol, and the immunostimulatory oligonucleotide is a CpG-containing ODN.

68. The use of any one of claims 66-67, wherein the CpG-containing ODN is 5’ JU*C-G*T*C*G*A*C*G*A*T*C*G*G*C*G*G*C*C*G*C*C* G*T 3' (SEQ ID NO:17), wherein “*” refers to a phosphorothioate bond, “-” refers to a phosphodiester bond, and “JU” refers to 5'-Iodo-2'-deoxyuridine.

69. The use of claim 67, wherein the immunogenic composition comprises at least one of TRP140, TRP36, and/or TRP19.

70. The use of claim 69, wherein the immunogenic composition comprises at least two of TRP140, TRP36, and/or TRP19.

71. The use of claim 70, wherein the immunogenic composition comprises TRP140, TRP36, and TRP19.

72. The use of claim 67, wherein the immunogenic composition comprises a chimeric protein comprising 1, 2, or all of TRP140, TRP36, and/or TRP19.

73. The use of claim 67, wherein the immunogenic composition comprises a polypeptide comprising 1, 2, or all of SEQ ID NO:1, SEQ ID NO:3, and/or SEQ ID NO:14.

74. The use of claim 62, wherein the immunogenic composition comprises an adjuvant and 1, 2, or all of TRP140, TRP36, and/or TRP19.

75. The use of any one of claims 62-74, further comprising a second immunogenic composition to be administered to the subject, wherein the second immunogenic composition comprises an *Ehrlichia* bacterin.

76. The use of claim 75, wherein the *Ehrlichia* bacterin is an *E. canis* bacterin.

77. The use of any of claims 75-76, wherein the second immunogenic composition comprises an adjuvant, preferably wherein the adjuvant comprises a triterpenoid saponin, a sterol, and an immunostimulatory oligonucleotide.

78. The use of claim 77, wherein the adjuvant in the second immunogenic composition comprises Quil A, cholesterol, and a CpG-containing ODN.

79. The use of claim 78, wherein the CpG-containing ODN is 5' JU*C-G*T*C*G*A*C*G*A*T*C*G*G*C*G*G*C*C*G*C*C* G*T 3' (SEQ ID NO:17), wherein "*" refers to a phosphorothioate bond, "-" refers to a phosphodiester bond, and "JU" refers to 5'-Iodo-2'-deoxyuridine.

80. The use of any one of claims 62-78, wherein the mammalian subject is a dog.