WHAT IS CLAIMED IS:

1. An immunogenic composition or product combination comprising:

(a) a nucleic acid comprising at least one nucleic acid sequence encoding hepatitis D antigen (HDAg) and at least one nucleic acid sequence encoding PreS1; and

(b) a polypeptide comprising at least one HDAg polypeptide sequence and at least one PreS1 polypeptide sequence.

2. The immunogenic composition or product combination of claim 1, wherein the at least one nucleic acid sequence encoding HDAg comprises SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3 or SEQ ID NO: 4, or any combination thereof.

3. The immunogenic composition or product combination of claim 1 or 2, wherein the at least one nucleic acid sequence encoding PreS1 comprises SEQ ID NO: 9 or SEQ ID NO: 10 or both.

4. The immunogenic composition or product combination of any one of claims 1-3, wherein the nucleic acid is configured such that each HDAg nucleic acid sequence is grouped with a PreS1 nucleic acid sequence, and wherein the PreS1 nucleic acid sequence is immediately downstream of the HDAg nucleic acid sequence.

5. The immunogenic composition or product combination of claim 4, further comprising at least one nucleic acid sequence encoding an autocatalytic peptide cleavage site, wherein the grouped HDAg and PreS1 nucleic acid sequences are separated by the at least one nucleic acid sequence encoding the autocatalytic peptide cleavage site.

6. The immunogenic composition or product combination of claim 5, wherein the at least one nucleic acid sequence encoding the autocatalytic peptide cleavage site comprises a nucleic acid sequence selected from the group consisting of porcine teschovirus-1 2A (P2A), foot-and-mouth disease virus 2A (F2A), equine rhinitis A virus (ERAV) 2A (E2A) and *Thosea*

asigna virus 2A (T2A) nucleic acid, and wherein each encoded autocatalytic peptide cleavage site may optionally include a GSG (glycine-serine-glycine) motif at its N-terminus.

7. The immunogenic composition or product combination of claim 5 or 6, wherein the at least one nucleic acid sequence encoding the autocatalytic peptide cleavage site comprises SEQ ID NO: 13.

8. The immunogenic composition or product combination of any one of claims 1-7, wherein the nucleic acid is codon optimized for expression in a human.

9. The immunogenic composition or product combination of any one of claims 1-8, wherein the nucleic acid comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to SEQ ID NO: 15-24 or 35-36.

10. The immunogenic composition or product combination of any one of claims 1-9, wherein the nucleic acid comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to SEQ ID NO: 18, or SEQ ID NO: 35-36.

11. The immunogenic composition or product combination of any one of claims 1-10, wherein the at least one HDAg polypeptide comprises SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8 or any combination thereof.

12. The immunogenic composition or product combination of any one of claims 1-11, wherein the at least one PreS1 polypeptide sequence comprises SEQ ID NO: 11 or SEQ ID NO: 12 or both.

13. The immunogenic composition or product combination of any one of claims 1-12, wherein the at least one PreS1 polypeptide sequence is downstream of the at least one HDAg polypeptide sequence.

14. The immunogenic composition or product combination of any one of claims 1-13, wherein the polypeptide comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to the sequence of SEQ ID NO: 25-34 or 37.

15. The immunogenic composition or product combination of any of claims 1-14, wherein the polypeptide comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to the sequence of SEQ ID NO: 29, 31, 32, or 37.

16. The immunogenic composition or product combination of any one of claims 1-15, wherein the polypeptide is recombinantly expressed.

17. The immunogenic composition or product combination of claim 16, wherein the polypeptide is recombinantly expressed in a mammalian, bacterial, yeast, insect, or cell-free system.

18. The immunogenic composition or product combination of any one of claims 1-17, further comprising an adjuvant.

19. The immunogenic composition or product combination of claim 18, wherein the adjuvant is alum, QS-21 or MF59, or any combination thereof.

20. The immunogenic composition or product combination of any one of claims 1-19, wherein the nucleic acid comprises DNA.

21. The immunogenic composition or product combination of any one of claims 1-20, wherein the nucleic acid is provided in a recombinant vector.

22. A method of generating an immune response in a subject using the immunogenic composition or product combination set forth in any one of claims 1-21, comprising:

administering to the subject at least one prime dose comprising the nucleic acid; and

administering to the subject at least one boost dose comprising the polypeptide.

23. The method of claim 22, wherein the at least one boost dose further comprises an adjuvant.

24. The method of claim 23, wherein the adjuvant is alum, QS-21, or MF59, or any combination thereof.

25. The method of any one of claims 22-24, wherein the at least one boost dose is administered at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 24, 36, or 48 days or weeks after the at least one prime dose is administered or within a range of time defined by any two of the aforementioned time points e.g., within 1-48 days or 1-48 weeks.

26. The method of any one of claims 22-25, wherein the administration is provided enterally, orally, intranasally, parenterally, subcutaneously, intramuscularly, intradermally, or intravenously or any combination thereof.

27. The method of any one of claims 22-26, wherein the administration is performed in conjunction with an antiviral therapy.

28. The method of claim 27, wherein the antiviral therapy comprises administration of entecavir, tenofovir, lamivudine, adefovir, telbivudine, emtricitabine, interferon-α, pegylated interferon-α, or interferon alfa-2b, or any combination thereof.

29. An immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D, comprising:

(a) a nucleic acid comprising at least one nucleic acid sequence encoding hepatitis D antigen (HDAg), and at least one nucleic acid sequence encoding PreS1; and

(b) a polypeptide comprising at least one HDAg polypeptide sequence and at least one PreS1 polypeptide sequence.

30. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 29, wherein the at least one nucleic acid sequence encoding HDAg comprises SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3 or SEQ ID NO: 4, or any combination thereof.

31. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 29 or 30, wherein the at least one nucleic acid sequence encoding PreS1 comprises SEQ ID NO: 9 or SEQ ID NO: 10 or both.

32. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-31, wherein the nucleic acid is configured such that each HDAg nucleic acid sequence is grouped with a PreS1 nucleic acid sequence, and wherein the PreS1 nucleic acid sequence is immediately downstream of the HDAg nucleic acid sequence.

33. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 32, further comprising at least one nucleic acid sequence encoding an autocatalytic peptide cleavage site, wherein the grouped HDAg and PreS1 nucleic acid sequences are separated by the at least one nucleic acid sequence encoding the autocatalytic peptide cleavage site.

34. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 33, wherein the at least one nucleic acid sequence encoding the autocatalytic peptide cleavage site comprises a nucleic acid sequence selected from the group consisting of porcine teschovirus-1 2A (P2A), foot-and-mouth disease virus 2A (F2A), equine rhinitis A virus (ERAV) 2A (E2A) and *Thosea asigna* virus 2A (T2A) nucleic acid, and wherein each encoded autocatalytic peptide cleavage site may optionally include a GSG (glycine-serine-glycine) motif at its N-terminus.

35. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 33 or 34, wherein the at least one nucleic acid sequence encoding the autocatalytic peptide cleavage site comprises SEQ ID NO: 13.

36. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-35, wherein the nucleic acid is codon optimized for expression in a human.

37. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-36, wherein the nucleic acid comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to SEQ ID NO: 15-24 or 35-36.

38. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-37, wherein the nucleic acid comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to SEQ ID NO: 18, or SEQ ID NO: 35-36.

39. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-38, wherein the at least one HDAg polypeptide comprises SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7 or SEQ ID NO: 8 or any combination thereof.

40. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-39, wherein the at least one PreS1 polypeptide sequence comprises SEQ ID NO: 11 or SEQ ID NO: 12 or both.

41. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-40, wherein the at least one PreS1 polypeptide sequence is downstream of the at least one HDAg polypeptide sequence.

42. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-41, wherein the polypeptide comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to the sequence of SEQ ID NO: 25-34 or 37.

43. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any of claims 29-42, wherein the polypeptide comprises a sequence having at least 80%, 85%, 90%, 95%, 99%, or 100% homology to the sequence of SEQ ID NO: 29, 31, 32, or 37.

44. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-43, wherein the polypeptide is recombinantly expressed.

45. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 44, wherein the polypeptide is recombinantly expressed in a mammalian, bacterial, yeast, insect, or cell-free system.

46. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-45, further comprising an adjuvant.

47. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of claim 46, wherein the adjuvant is alum, QS-21 or MF59, or any combination thereof.

48. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-47, wherein the nucleic acid comprises DNA.

49. The immunogenic composition or product combination for use in the treatment or inhibition of hepatitis B or hepatitis D of any one of claims 29-48, wherein the nucleic acid is provided in a recombinant vector.