CLAIMS

1. A pharmaceutical composition comprising:

(a) one or more neo-antigenic peptide or a pharmaceutically acceptable salt thereof;

(b) a pH modifier; and

(c) a pharmaceutically acceptable carrier;

in which the one or more neo-antigenic peptide or pharmaceutically acceptable salt thereof is bounded by Pi ≥5 and HYDRO ≥-6.0, Pi ≥8 and HYDRO ≥-8.0, Pi ≤5 and HYDRO ≥-5, Pi ≥9 and HYDRO ≤-8.0, or Pi >7 and HYDRO ≥-5.5.

2. A pharmaceutical composition according to Claim 1, in which the pharmaceutical composition is a vaccine composition.

3. A pharmaceutical composition according to Claim 1 or 2, in which the pharmaceutical composition comprises from two to five neo-antigenic peptides.

4. A pharmaceutical composition according to Claim 1, 2 or 3, in which the pharmaceutical composition comprises from five to 40 neo-antigenic peptides.

5. A pharmaceutical composition according to any preceding claim, in which the neo-antigenic peptides are soluble.

6. A pharmaceutical composition according to any preceding claim, in which the one or more neoantigenic peptide ranges from 5 to 50 amino acids in length.

7. A pharmaceutical composition according to any preceding claim, in which the pH modifier is a base.

8. A pharmaceutical composition according to any preceding claim, in which the pH modifier is a dicarboxylate or tricarboxylate salt.

9. A pharmaceutical composition according to any preceding claim, in which the pH modifier is succinate or a pharmaceutically acceptable salt thereof.

10. A pharmaceutical composition according to any of Claims 1 to 8, in which the pH modifier is citrate or a pharmaceutically acceptable salt thereof.

11. A pharmaceutical composition according to any preceding claim, in which the pH modifier is present at a concentration from 1 mM to 10 mM.

12. A pharmaceutical composition according to any preceding claim, in which the pharmaceutically acceptable carrier comprises water and dextrose, trehalose or sucrose.

13. A pharmaceutical composition according to any preceding claim, in which the pharmaceutically acceptable carrier further comprises dimethylsulfoxide.

14. A pharmaceutical composition according to any preceding claim, in which the pharmaceutical composition further comprises an immunomodulator or adjuvant.

15. A pharmaceutical composition comprising:

one to five neo-antigenic peptides or pharmaceutically acceptable salts thereof;

1-3% dimethylsulfoxide;

3.6 - 3.7 % dextrose in water; and

3.6 - 3.7 mM succinic acid or a succinate.

16. A pharmaceutical composition comprising:

one to five neo-antigenic peptides or pharmaceutically acceptable salts thereof;

1-3% dimethylsulfoxide;

3.6 - 3.7 % dextrose in water; and

3.6 - 3.7 mM succinic acid or succinate;

0.5 mg/ml poly I: poly C;

0.375 mg/ml poly-L-Lysine;

1.25 mg/ml sodium carboxymethylcellulose; and

0.225% sodium chloride.

17. A pharmaceutical composition according to any preceding claim, in which each of the neoantigenic peptides or pharmaceutically acceptable salts thereof are each present at an amount of from 10 to 500 μg/ml.

18. A method comprising combining a pharmaceutical composition according to any of Claims 1 to 15 or 17 with a solution of an immunodulator or adjuvant.

19. A vaccination or immunization kit comprising:

(a) a separately packaged freeze-dried immunogenic composition comprising one or more neo-antigenic peptide or a pharmaceutically acceptable salt thereof; and

(b) a solution for the reconstitution of the freeze-dried immunogenic composition,

in which the one or more neo-antigenic peptides or pharmaceutically acceptable salts thereof is bounded by Pi ≥5 and HYDRO ≥-6.0, Pi ≥8 and HYDRO ≥-8.0, Pi ≤5 and HYDRO ≥-5, Pi ≥9 and HYDRO ≤-8.0 or Pi >7 and HYDRO ≥-5.5.