What is Claimed:

1. A method for the preparation of a stable multivalent pneumococcal polysaccharide-protein conjugate vaccine composition, showing optimal adsorption for each conjugate and minimal aggregation of conjugates, said method comprising the following steps:

    i. conjugating pneumococcal polysaccharide molecules derived from Streptococcus pneumoniae to a protein carrier in a ratio between 0.5 and 1.4; and at a pH between 5.2 and 5.9 to obtain polysaccharide-protein conjugates;

    ii. individually adsorbing polysaccharide-protein conjugates obtained in step (i) comprising serotypes 6A, 9V and 23F on a first aluminium salt adjuvant in a histidine-succinic acid buffer at a concentration between 1mM and 200 mM and at a pH between 5.6 and 5.8, wherein the amount of said aluminium salt adjuvant ranges from 20-375 µg of Al+++ per 0.5 ml dose of the final vaccine composition;

    iii. mixing and adsorbing polysaccharide-protein conjugates obtained in step (i) comprising serotypes selected from 1, 2, 3, 4, 5, 6B, 7F, 12F, 14, 15B, 18C, 19A, 19F, and 22F on a second aluminium salt adjuvant in a histidine-succinic acid buffer at a concentration between 1mM and 200 mM and a shift in pH from 6.8 to between 5.6 and 5.8, wherein the amount of said aluminium salt adjuvant ranges from 20-375 µg of Al+++ per 0.5 ml dose of the final vaccine composition; and

    iv. blending said first adsorbed set obtained in step (ii) with said second adsorbed set obtained in step (iii), in presence of a surfactant with the help of a Rushton turbine flat blade impeller to obtain a stable multivalent pneumococcal polysaccharide-protein conjugate vaccine composition,
    wherein the adsorption is in the range of 75-99%, as measured by Sandwich ELISA.

2. The method as claimed in claim 1, wherein step (i) comprises of:

i. reacting a pneumococcal polysaccharide containing a phosphodiester linkage between repeat units covalently linked to a carrier protein having average size between 130 KDa and 190 KDa with a cyanylation agent in a ratio between 1:0.8 and 1:1 at 22 ºC to 25 ºC for a period of 4 min to 10 min, resulting in a cyanate-activated polysaccharide;

ii. contacting cyanate-activated polysaccharide with protein in a ratio of 1:1 at a pH of 9 to 9.5 for a period of 3 hr to 5 hr followed by quenching with glycine;
wherein said conjugation process minimizes cyanylation agent by-product mediated degradation of sized polysaccharide and prevents subsequent polysaccharide-polysaccharide aggregation, resulting in a conjugate having minimum free polysaccharide content.

3. The method as claimed in claim 2, wherein the polysaccharide comprising a phosphodiester linkage between repeat units is derived from one of Streptococcus pneumoniae serotype 19A, 19F, 6A or 6B.

4. The method as claimed in claim 3, wherein the polysaccharide is Streptococcus pneumoniae serotype 19A polysaccharide and cyanylation agent is 1-cyano-4-dimethyl-amino-pyridinium-tetrafluoroborate mixed in a ratio of 1:1 at 22 ºC for a period of 4 minutes resulting in a cyanate-activated polysaccharide.

5. The method as claimed in claim 3, wherein the polysaccharide is Streptococcus pneumoniae serotype 19F polysaccharide and cyanylation agent is 1-cyano-4-dimethyl-amino-pyridinium-tetrafluoroborate mixed in a ratio of 1:0.8 at 22 ºC for a period of 8-10 minutes resulting in a cyanate-activated polysaccharide.

6. The method as claimed in claim 1, wherein said histidine-succinic acid buffer has a concentration between 1 mM and 200 mM.

7. The method as claimed in claim 6, wherein said histidine-succinic acid buffer has a concentration between 10 mM and 40 mM.

8. A stable multivalent pneumococcal polysaccharide-protein conjugate vaccine composition comprising at least 10 Streptococcus pneumoniae polysaccharide protein conjugates having polysaccharide selected from serotypes 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9A, 9V, 9F, 9N, 10A, 11A, 12F, 14, 15A, 15B, 15C, 17F, 18C, 19A, 19F, 20, 22F, 23B, 23F, 24F, 33F, 35B, 38 and 45, wherein at least one polysaccharide protein conjugate having CRM197 as carrier protein, at least one polysaccharide protein conjugate having TT as carrier protein, at least one polysaccharide protein conjugate having DT as carrier protein.

9. The composition as claimed in claim 8, wherein serotype 3 is conjugated to CRM197, serotype 18C is conjugated to CRM197, serotype 4 is conjugated to DT, serotype 15B is conjugated to TT, and serotype 22F is conjugated to TT.

10. The composition as claimed in claim 8; wherein said composition comprises of 10distinct polysaccharide protein conjugates having polysaccharide from serotypes 1, 5, 6A, 6B, 7F, 9V, 14, 19A, 19F and 23F.

11. The composition as claimed in claim 8; wherein said composition comprises 16 distinct polysaccharide protein conjugates having polysaccharide from serotypes 1, 2, 3, 4, 5, 6A, 6B, 7F, 9V, 12F, 14, 15B, 18C, 19A, 19F and 23F.

12. The composition as claimed in claim 8; wherein said composition comprises 17 distinct polysaccharide protein conjugates having polysaccharide from serotypes 1, 2, 3, 4, 5, 6A, 6B, 7F, 9V, 12F, 14, 15B, 18C, 19A, 19F, 22F and 23F.

13. The method as claimed in claim 4 or 5, wherein the said conjugate has free polysaccharide content of less than 1.6%.

14. The composition as claimed in any of the preceding claims, which further includes the step of storing said composition obtained in a lyophilized state, until administration as a 1, 5 or 10 dose formulation with a diluent containing aluminium phosphate gel and NaCl.

15. The composition as claimed in any of the preceding claims, wherein Streptococcus pneumoniae serotype 6A- CRM197 conjugate exhibits an increased immunogenicity when present in 16 valent or 17 valent composition.