We claim:

~~1. A method for producing a composition comprising Enteroviral particles, wherein the method comprises the steps of:~~

~~a) producing a medium containing the Enteroviral particles;~~

~~b) purification of the Enteroviral particles from the medium;~~

~~c) stabilization of purified Enteroviral particles~~

~~d) formalin inactivation of the Enteroviral particles whereby during at least a part of the inactivation a buffer other than a phosphate buffer is present at a concentration sufficient to prevent or reduce aggregation of the Enteroviral particles thereby reducing the D-antigen losses post inactivation by 8 to 10 fold as compared to phosphate buffer ; and,~~

~~e) adsorption of Enteroviral particles on Aluminium salt adjuvant whereby percentage adsorption on alum is atleast 95%.~~

~~2. A method according to claim 1, wherein the buffer of step (d)is selected from the group consisting of TRIS, TBS, MOPS, HEPES, and bicarbonate buffers.~~

~~3. A method according to claim 2, wherein the buffer is a TRIS buffer having a pH of about 6.8 to 7.2 and at a concentration in the range of 30mM- 70mM,preferably 40mM .~~

~~4. A method according to claim 1, wherein the aluminium salt adjuvant of step (e) is selected from a group of aluminium hydroxide, or aluminium phosphate, or a mixture of both.~~

~~5. A method according to claim 4, wherein said aluminium salt adjuvant is an aluminium hydroxide having concentration between 1.5mg/0.5 ml dose and 2.5 mg/0.5 ml dose, preferably between 2.100 mg/0.5ml dose and 2.4mg/0.5 ml dose at a pH of about 6.5.~~

~~6. A method according to claim 5,wherein total aluminium content in the trivalent vaccine is 0.8-1.2mg, preferably 0.8mg $Al^{3+}$ per 0.5mL dose ,characterized in that atleast 0.4 mg $Al^{3+}$ for Type 1,atleast 0.2mg $Al^{3+}$ for Type 2,atleast 0.2mg $Al^{3+}$ for Type 3.~~

~~7. A method according to any one of claim 1 to 6, wherein the composition comprising Enteroviral particles is a vaccine.~~

~~8. A method according to any one of claims 1 to 7, wherein the Enteroviral particles are of an Enterovirus of polioviruses.~~

~~9. A method according to claim 8, wherein the Enteroviral particles comprise polioviruses of the Sabin serotypes 1, 2 and 3.~~

~~10. A method according to claim 8, wherein the Enteroviral particles comprise polioviruses of Salk serotypes IPV type 1 (Mahoney strain), IPV type 2 (MEF-1 strain); and/or IPV type 3(Saukett strain).~~

~~11. A method according to any one of claims 1 to 10, wherein the vaccine is a dose reduced Inactivated Polio Vaccine (IPV).~~

~~12. A method according to claims 1 to 11, wherein the dose reduced Inactivated Polio Vaccine vaccine comprises:~~
~~i) inactivated poliovirus type 1 at a dose less than 9 D-antigen units instead of standard dose of 42DU; and/or~~
~~ii) inactivated poliovirus type 2 at a dose less than 17 D-antigen units; and/or~~
~~iii) inactivated poliovirus type 3 at a dose less than 11 D-antigen units instead of standard dose of 32DU.~~

~~13. A method according to claims 1 to 12, wherein said dose reduced Inactivated Polio Vaccine can be selected from a group of~~
~~i) Sabin single dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 5-16-10~~

ii) Sabin two dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 2.5-8-5
iii)Salk single dose composition having Salk Type 1 ,Type 2,Type 3 combination selected from 8-2-5
iv)Salk two dose composition having Salk Type 1 ,Type 2,Type 3 combination selected from 5-2-5

14. A method according to claims 1 to 13, wherein said method for preparing a dose reduced inactivated Polio vaccine containing Salk or Sabin polioviruses comprises the steps of:

a) producing a medium containing the polioviruses;

b) purification of the polio viruses from the medium;

c) stabilization of purified polioviruses by addition of M-199 medium containing glycine;

d) inactivation of the polio viruses by using formaldehyde 0.025% at 37°C for 5 to 13 days in presence of TRIS buffer at a concentration between 30mM to 60mM to prevent or reduce aggregation of the poliovirus particles thereby reducing the D-antigen losses post inactivation by 8 to 10 fold as compared to phosphate buffer ; and

e) adsorption of inactivated polioviruses on Alum hydroxide adjuvant having concentration between 2 to 2.5 mg/dose, whereby percentage adsorption on Alum hydroxide is greater than 95% for Type 1,Type2 and Type 3.

15. A method according to claims 1 to 13, wherein said method for preparing a dose reduced inactivated Polio vaccine containing Salk or Sabin polioviruses comprises the steps of:

a) producing a medium containing the polioviruses;

~~b) purification of the polio viruses from the medium;~~

~~c) stabilization of purified polioviruses by addition of M-199 medium containing glycine;~~

~~d) inactivation of the polio viruses by using formaldehyde 0.025% at 37°C for 5 to 13 days in presence of TRIS buffer at a concentration between 30mM to 60mM to prevent or reduce aggregation of the poliovirus particles thereby reducing the D-antigen losses post inactivation by 8 to 10 fold as compared to phosphate buffer ; and~~

~~e) adsorption of inactivated polioviruses on Alum hydroxide adjuvant having concentration between 2 to 2.5 mg/dose, whereby percentage adsorption on Alum hydroxide is greater than 95% for Type 1 and Type 3.~~

**~~16.~~** ~~A method according to claims 1 to 15, wherein said dose reduced Salk or Sabin Inactivated Polio Vaccine does not comprise Type 2.~~

~~17. 17. The method of claims 1-16,wherein a multivalent vaccine consisting of dose reduced IPV can comprise of one or more antigens from a pathogen selected from a list consisting of: Haemophilus influenzae b, Neisseria meningitidis type A, Neisseria Meningitidis type C, Neisseria meningitidis type W, Neisseria meningitidis type Y, Neisseria meningitidis type X, Neisseria meningitidis type B , Streptococcus pneumoniae, Streptococcus agalactiae Salmonella typhi ,Hepatitis A, Hepatitis B ,RSV, Hepatitis C, diphtheria toxoid, tetanus toxoid, whole cell pertussis, acellular pertussis, Staphylococcus aureus, anthrax, Vibrio cholera, Zika, Ebola, Chikungunya, dengue, malaria, measles, mumps, rubella, BCG, Japanese encephalitis, Rotavirus, smallpox,Shigella, yellow fever, typhoid, CMV, Shingles, Varicella virus, HPV, HSV , and HIV.~~

1. A method for producing a composition comprising polioviruses, wherein the method comprises the steps of:

a) producing a medium containing the polioviruses;

b) purification of the polioviruses from the medium;

c) stabilization of purified polioviruses;

d) formalin inactivation of the polioviruses; and,

e) adsorption of polioviruses on Aluminium salt adjuvant whereby percentage adsorption on alum is atleast 95%,

wherein in step (d) during at least a part of the formalin inactivation a buffer selected from a group consisting of TRIS, TBS, MOPS, HEPES, and bicarbonate buffers is present.

2. The method according to claim 1, wherein the buffer is present at a concentration sufficient to prevent or reduce aggregation of the polioviruses thereby reducing the D-antigen losses post inactivation by 8 to 10 fold as compared to phosphate buffer.

3. The method according to claim 1 or 2, wherein the buffer is a TRIS buffer having a pH of 6.8 to 7.2 and at a concentration in the range of 30mM- 70mM.

4. The method according to claim 3, wherein the concentration of the buffer is 40mM.

5. The method according to claim 1, wherein the aluminium salt adjuvant of step (e) is selected from a group of aluminium hydroxide, or aluminium phosphate, or a mixture of both.

6. The method according to claim 5, wherein said aluminium salt adjuvant is an aluminium hydroxide having concentration between 1.5mg/0.5 ml dose and 2.5 mg/0.5 ml dose, preferably between 2.100 mg/0.5ml dose and 2.4mg/0.5 ml dose at a pH of about 6.5.

7. The method according to claim 6,wherein total aluminium content in atrivalent vaccine is not more than 1.2mg, preferably 0.8mg $Al^{3+}$ per 0.5mL dose characterized in that atleast 0.4 mg $Al^{3+}$ for Type 1,atleast 0.2mg A $^{3+}$ for Type 2,atleast 0.2mg $Al^{3+}$ for Type 3.

8. The method according to any one of claim 1 to 7, wherein the composition comprising polioviruses is a vaccine.

9. The method according to any one of claims 1 to 8, wherein the polioviruses comprise polioviruses of Sabin serotypes 1, 2 and 3.

10. The method according to any one of claims 1 to 8, wherein the polioviruses comprise polioviruses of Salk serotypes IPV type 1 (Mahoney strain), IPV type 2 (MEF-1 strain), and/or IPV type 3(Saukett strain).

11. The method according to any one of claims 8 to 10, wherein the vaccine is a dose reduced Inactivated Polio Vaccine (IPV).

12. The method according to claim11, wherein the dose reduced Inactivated Polio Vaccine comprises:

i) inactivated poliovirus type 1 at a dose not less than 3 D antigen units instead of standard dose of 42DU; and/or

ii) inactivated poliovirus type 2 at a dose not less than 2 D-antigen units instead of standard dose of 8DU; and/or

iii) inactivated poliovirus type 3 at a dose not less than 6 D-antigen units instead of standard dose of 32DU.

13. The method according to any one of claims 1 to 12, wherein amethod for preparing a dose reduced inactivated Polio vaccine containing Salk or Sabin polioviruses comprises the steps of:

a) producing a medium containing the polioviruses;

b) purification of the polio viruses from the medium;

c) stabilization of purified polioviruses by addition of M-199 medium containing glycine;

d) inactivation of the polio viruses by using formaldehyde 0.025% at 37°C for 5 to 13 days in presence of TRIS buffer at a concentration between 30mM to 60mM to prevent or reduce aggregation of the poliovirus particles thereby reducing the D-antigen losses post inactivation by 8 to 10 fold as compared to phosphate buffer ; and

e) adsorption of inactivated polioviruses on Alum hydroxide adjuvant having concentration between 2 to 2.5 mg/dose, whereby percentage adsorption on Alum hydroxide is greater than 95% for Type l,Type2 and Type 3.

14. The method according to any one of claims 1 to 12, wherein a method for preparing a dose reduced inactivated Polio vaccine containing Salk or Sabin polioviruses comprises the steps of:

a) producing a medium containing the polioviruses;

b) purification of the polio viruses from the medium;

c) stabilization of purified polioviruses by addition of M- 199 medium containing glycine;

d) inactivation of the polio viruses by using formaldehyde 0.025% at 37°C for 5 to 13 days in presence of TRIS buffer at a concentration between 30mM to 60m to prevent or reduce aggregation of the poliovirus particles thereby reducing the D-antigen losses post inactivation by 8 to 10 fold as compared to phosphate buffer ; and

e) adsorption of inactivated polioviruses on Alum hydroxide adjuvant having concentration between 2 to 2.5 mg/dose, whereby percentage adsorption on Alum hydroxide is greater than 95% for Type 1 and Type 3.

15. The method according to claim 13, wherein said dose reduced Salk or Sabin Inactivated polio Vaccine does not comprise Type 2. 16. The method according to any one of claims 7 to 15, wherein the vaccine consisting of dose reduced IPV can comprise of one or more antigens from a pathogen selected from a list consisting of *Haemophilus influenzae* b, *Neisseria meningitidis* type A, *Neisseria Meningitidis* type C, *Neisseria meningitidis* type W-135, *Neisseria meningitidis* type Y, *Neisseria meningitidis* type X, *Neisseria meningitidis* type B or purified antigen , *Streptococcus pneumoniae*, *Salmonella typhi* , *Hepatitis A, Hepatitis B ,diphtheria toxoid, tetanus toxoid*, *whole cell pertussis* and *acellular pertussis.*

17. The method according to claims 11 to 12, wherein said dose reduced Inactivated Polio Vaccine can be selected from a group of

i) Sabin single dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 5-16-10;

ii) Sabin two dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 516-10;

iii) Sabin single dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 2.5-8-5;

iv) Sabin two dose composition having Sabin Type 1, Type 2, Type 3 combination selected from 2.5-8-5;

v) Sabin single dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 5-8-10;

vi) Sabin two dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 5-8-10;

vii) Sabin single dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 7.5-16-10;

viii) Sabin two dose composition having Sabin Type 1,Type 2,Type 3 combination selected from 7.5-16-10;

ix) Salk single dose composition having Salk Type 1 ,Type 2,Type 3 combination selected from 8-2-5;

x) Salk two dose composition having Salk Type 1 ,Type 2,Type 3 combination selected from 8-2-5;

xi) Salk single dose composition having Salk type 1, Type 2, Type 3 combination selected from 10-2-5;

xii) Salk two dose composition having Salk type 1, Type 2, Type 3 combination selected from 10-2-5;

xiii) Salk single dose composition having Salk type 1, Type 2, Type 3 combination selected from 10-2-12;

xiv) Salk two dose composition having Salk type 1, Type 2, Type 3 combination selected from 10-2-12;

xv) Salk single dose composition having Salk Type 1, Type 2, Type 3 combination selected from 5-2-5;

xvi) Salk two dose composition having Salk Type 1, Type 2, Type 3 combination selected from 5-2-5.