In view of the many possible embodiments to which the principles of the disclosed invention may be applied, it should be recognized that the illustrated embodiments are only preferred examples of the invention and should not be taken as limiting the scope of the invention. Rather, the scope of the invention is defined by the following claims. We therefore claim as our invention all that comes within the scope and spirit of these claims.

I. Immune response of the adjuvanted SABIN polio viruses.

We observed that if the viruses are adjuvanted with Al $(OH)_3$ shows excellent dose sparing.

If we consider single dose regimen for immunization then **5-16-10** D-Ag are best combination for Sabin's polio type 1, 2 and 3 respectively.

If we consider two doses for immunization then **2.5-8-5** gives excellent immunity.

	Type 1	Type 2	Type 3
D-Antigen units of Sabin's strain	5	16	10
	2.5	8	5
	7.5	16	10

Supporting experimental data for Sabin

Rat No	5 - 16 - 10 With Alum						2.5 - 8 - 5 With Alum						7.5 - 16 - 10 With Alum					
	Single Dose			Double Dose			Single Dose			Double Dose			Single Dose			Double Dose		
	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3
1	8	4	10	12	7	12	5	5	3	7	7	12	8	4	10	9	8	10
2	6	7	12	11	7	12	5	5	8	5	9	8	9	2	9	12	6	12
3	6	2	9	6	8	12	5	4	3	8	7	12	11	0	10	8	7	12
4	6	4	9	7	7	12	6	3	11	9	7	12	7	7	7	7	6	12
5	8	4	11	9	10	12	10	0	7	10	7	12	11	6	10	9	8	12
6	6	4	11	10	8	12	6	3	7	9	8	12	6	6	11	9	6	12
7	6	6	8	11	9	12	5	4	8	8	6	12	6	5	10	11	6	12
8	6	6	9	9	7	12	7	3	7	10	9	11	6	4	9	9	5	10
9	7	8	5	10	6	12	5	5	11	10	9	12	7	4	12	10	5	11
10	5	3	5	11	9	12	7	5	8	10	10	12	10	3	9	9	7	12

Rat No	Positive Control - Tri. Salk IPV						Negative Control					
	Single Dose			Double Dose			Single Dose			Double Dose		
	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3	Type 1	Type 2	Type 3
1	**1**	**4**	**2**	**4**	**7**	**9**	**0**	**0**	**0**	**0**	**0**	**0**
2	**0**	**3**	**0**	**3**	**4**	**8**	**0**	**0**	**0**	**0**	**0**	**0**
3	**0**	**5**	**4**	**2**	**4**	**9**	**0**	**0**	**0**	**0**	**0**	**0**
4	**0**	**5**	**3**	**6**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**0**
5	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**0**	**0**	**0**	**0**	**0**	**0**
6	**2**	**6**	**5**	**1**	**7**	**6**	**0**	**0**	**0**	**0**	**0**	**0**
7	**0**	**6**	**2**	**7**	**10**	**9**	**0**	**0**	**0**	**0**	**0**	**0**
8	**0**	**5**	**1**	**5**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**
9	**0**	**4**	**2**	**5**	**7**	**9**	**0**	**0**	**0**	**0**	**0**	**0**
10	**4**	**5**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

II. Immune response of the adjuvanted SALK polio viruses.

We observed that if the viruses are adjuvanted with Al $(OH)_3$ shows excellent dose sparing.

If we consider single dose regimen for immunization then **8-2-5** D-Ag are best combination for Salk's polio type 1, 2 and 3 respectively.

If we consider two doses for immunization then **5-2-5** gives excellent immunity.

	Type 1	Type 2	Type 3
D-antigen units for Salk Strain	8	2	5
	5	2	5

Supporting experimental data for Salk

Salk 8 - 2 - 5 With Alum						**Salk 5 - 2- 5 With Alum**					
Single Dose			**Double Dose**			**Single Dose**			**Double Dose**		
Type 1	**Type 2**	**Type 3**	**Type 1**	**Type 2**	**Type 3**	**Type 1**	**Type 2**	**Type 3**	**Type 1**	**Type 2**	**Type 3**
3	**8**	**1**	**9**	**10**	**6**	**2**	**8**	**1**	**10**	**11**	**12**
5	**6**	**2**	**9**	**12**	**8**	**2**	**6**	**2**	**10**	**10**	**10**
4	**7**	**5**	**12**	**11**	**12**	**4**	**5**	**2**	**9**	**10**	**11**
7	**5**	**6**	**11**	**11**	**10**	**6**	**7**	**1**	**12**	**12**	**9**
8	**6**	**3**	**10**	**12**	**11**	**5**	**5**	**5**	**8**	**9**	**6**
5	**8**	**4**	**10**	**10**	**9**	**2**	**8**	**4**	**11**	**10**	**8**
2	**7**	**2**	**8**	**9**	**8**	**3**	**6**	**6**	**8**	**12**	**8**
4	**5**	**1**	**9**	**12**	**7**	**6**	**9**	**2**	**9**	**9**	**9**
5	**6**	**2**	**8**	**9**	**6**	**2**	**8**	**1**	**10**	**8**	**10**
3	**9**	**1**	**12**	**10**	**10**	**1**	**7**	**3**	**12**	**12**	**11**
Positive Control - Tri. Salk IPV						**Negative Control**					
Single Dose			**Double Dose**			**Single Dose**			**Double Dose**		
Type 1	**Type 2**	**Type 3**	**Type 1**	**Type 2**	**Type 3**	**Type 1**	**Type 2**	**Type 3**	**Type 1**	**Type 2**	**Type 3**
2	**8**	**2**	**2**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

3	**10**	**0**	**4**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**0**
4	**7**	**3**	**5**	**7**	**8**	**0**	**0**	**0**	**0**	**0**	**0**
0	**4**	**7**	**5**	**7**	**5**	**0**	**0**	**0**	**0**	**0**	**0**
4	**5**	**4**	**3**	**9**	**11**	**0**	**0**	**0**	**0**	**0**	**0**
0	**6**	**3**	**8**	**9**	**7**	**0**	**0**	**0**	**0**	**0**	**0**
2	**10**	**2**	**7**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**
NS	**NS**	**NS**	**9**	**10**	**9**	**0**	**0**	**0**	**0**	**0**	**0**
3	**8**	**4**	**3**	**7**	**6**	**0**	**0**	**0**	**0**	**0**	**0**
1	**9**	**6**	**3**	**8**	**8**	**0**	**0**	**0**	**0**	**0**	**0**

1. Supporting Experimental data for Salk (10-2-5) Single Dose

Polio Salk vaccine 10-2-5 With Adjuvant		
Type 1	**Type 2**	**Type 3**
1	**5**	**7**
3	**5**	**6**
4	**9**	**3**
4	**8**	**2**
3	**9**	**5**
1	**7**	**7**
3	**9**	**7**
3	**11**	**6**
2	**9**	**5**

1	**10**	**6**

2. Supporting Experimental data for Salk (10-2-12) Single Dose

Polio Salk vaccine 10-2-12 With Adjuvant		
Type 1	**Type 2**	**Type 3**
3	**6**	**9**
2	**10**	**9**
4	**9**	**8**
1	**9**	**10**
2	**9**	**11**
2	**7**	**9**
4	**9**	**9**
3	**8**	**11**
1	**10**	**10**
2	**6**	**12**

3. Supporting Experimental data for Salk (5-8-10) Single Dose

Polio Salk vaccine 5-8-10 With Adjuvant		
Type 1	**Type 2**	**Type 3**
1	**8**	**9**

2	**10**	**7**
1	**9**	**8**
0	**11**	**10**
2	**9**	**11**
1	**10**	**8**
0	**9**	**9**
3	**11**	**12**
0	**9**	**10**
1	**8**	**7**

4. Supporting Experimental data for Salk (7.5-16-10) Single Dose

Polio Salk vaccine 7.5-16-10 With Adjuvant		
Type 1	**Type 2**	**Type 3**
1	**11**	**8**
2	**12**	**9**
1	**10**	**7**
4	**11**	**10**
3	**10**	**8**
0	**9**	**11**
3	**9**	**10**
2	**11**	**12**
0	**12**	**9**
1	**10**	**7**

5.

Positive Reference control (IPV08-143)		
Type 1	**Type 2**	**Type 3**
1	**8**	**4**
2	**9**	**5**
0	**2**	**2**
0	**3**	**0**
1	**4**	**6**
2	**4**	**3**
2	**5**	**2**
3	**9**	**5**
1	**6**	**3**
3	**6**	**5**

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 comprises:
i)inactivated poliovirus type 1 at a dose less than **15** D-antigen units instead of standard dose of 42DU; and/or
ii)inactivated poliovirus type 2 at a dose less than 18 D-antigen units; and/or
iii) inactivated poliovirus type 3 at a dose less than 15 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 5-16-10
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.

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. 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.