CLAIMS

1. An immunogenic composition comprising (a) Outer Membrane Vesicles (OMVs), (b) an acellular pertussis antigen, (c) a tetanus toxoid and (d) a diphtheria toxoid, wherein the OMVs are derived from a *Bordetella pertussis* strain expressing a genetically detoxified pertussis toxoid.

2. The immunogenic composition according to claim 1, wherein the OMVs are derived from a *Bordetella pertussis* strain expressing a genetically detoxified pertussis toxoid PT 9K/129G.

3. The immunogenic composition according to claim 1 or claim 2 wherein the OMVs are derived from a *Bordetella pertussis* strain that comprises an S1 gene which has been modified to include the mutations R9K and E129G and which expresses the genetically detoxified pertussis toxoid PT-9K/129G.

4. The immunogenic composition according to claim 3, wherein the OMVs are derived from a *Bordetella pertussis* strain in which the ArnT gene has been knocked-out or deleted.

5. The immunogenic composition according to any one of claims 1 to 4, wherein the Lipid A in the OMVs has a modified structure without glucosamine (GlcN) substitutions on the distal phosphate groups of the core structure.

6. The immunogenic composition according to any one of claims 1 to 5, wherein the acellular pertussis antigen is selected from the group consisting of (i) detoxified pertussis toxin (PT), (ii) filamentous hemagglutinin (FHA) and (iii) pertactin (PRN).

7. The immunogenic composition according to claim 6, wherein the acellular pertussis antigen comprises PT, FHA and PRN.

8. The immunogenic composition according to claim 7, wherein the PT is a genetically detoxified pertussis toxoid.

9. The immunogenic composition according to claim 7 or claim 8, wherein PT, FHA and PRN are present at a ratio of 16:16:5 (measured by weight).

10. The immunogenic composition according to any one of claims 1 to 9, wherein the diphtheria toxoid is present at a concentration of:

    i) from about 4 Lf/ml to about 8 Lf/ml, for example, 4 Lf per 0.5 ml dose; or

    ii) from about 20 to about 50 Lf/ml, for example, 25 Lf per 0.5 ml dose.

11. The immunogenic composition according to any one of the preceding claims, wherein tetanus toxoid is present at a concentration of from about 5 to about 10 Lf per 0.5 ml dose.

12. The immunogenic composition according to any one of claims 1 to 11, wherein the diphtheria toxoid and tetanus toxoid are present at

    i) a diphtheria toxoid:tetanus toxoid ratio that is greater than 1, for example, between 2:1 and 3:1 (measured in Lf units), such as 2.5:1; or

    ii) a tetanus toxoid:diphtheria toxoid ratio that is greater than 1, for example, between 1.5:1 and 2.5:1 (measured in Lf units), such as 2:1.

13. The immunogenic composition according to any one of the preceding claims, wherein the immunogenic composition contains an adjuvant.

14. The immunogenic composition according to any one of the preceding claims, wherein the immunogenic composition contains an aluminium salt adjuvant.

15. The immunogenic composition according to any one of the preceding claims, wherein the composition is an injectable liquid solution or suspension.

16. The immunogenic composition according to any one of claims 1 to 14, wherein the composition is lyophilised.

17. The immunogenic composition according to any one of the preceding claims, wherein the composition is a vaccine.

18. The immunogenic composition according to any one of the preceding claims, wherein the composition is to be administered to a human.

19. Use of the immunogenic composition according to any one of claims 1 to 18 in the manufacture of a medicament for raising an immune response in a patient against *Corynebacterium diphtheriae*, *Clostridium tetani* and *Bordetella pertussis*.

20. The immunogenic composition according to any one of claims 1 to 18, wherein the composition is to be administered to a human patient to raise an immune response in the human patient.

21. The immunogenic composition according to claim 20, wherein the immune response in the human patient is against *Corynebacterium diphtheriae*, *Clostridium tetani* and *Bordetella pertussis*.