Summary

In one aspect, there is provided a vaccine composition characterized in that it comprises a) ~~at least one antigen that comprises at least 50% of the sequence~~ a recombinant antigen comprising amino acids 1 to 99 of the capsid protein of dengue virus (DV) and b) the oligonucleotide identified as SEQ ID NO. 1.

In another aspect, there is provided an isolated nucleic acid characterized by the sequence identified as SEQ ID NO. 1.

In another aspect, there is provided use of the nucleic acid identified as SEQ ID NO. 1, for the manufacture of a medicament for ~~to increase~~ increasing the immune response to a vaccine antigen, which comprises ~~at least 50% of the sequence~~ amino acids 1 to 99 of the capsid protein of DV.

In another aspect, there is provided a vaccine composition comprising a) ~~at least one antigen that comprises at least 50% of the sequence~~ a recombinant antigen comprising amino acids 1 to 99 of the capsid protein of DV and b) the oligonucleotide identified as SEQ ID NO. 1 for use in inducing an immune response against DV.

CLAIMS

1. Vaccine composition characterized in that it comprises a) at least one antigen that comprises at least 50% of the sequence of the capsid protein of dengue virus (DV) and b) the oligonucleotide identified as SEQ ID NO. 1.
2. The vaccine composition of claim 1 wherein the antigen that comprises at least 50% of the sequence of the capsid protein of DV is a recombinant antigen comprising amino acids 1 to 99 of said protein.
3. The vaccine composition of claim 2 wherein the recombinant antigen comprising amino acids 1 to 99 of the capsid protein is a chimeric antigen that is selected from the group consisting of SEQ ID NO. 5 (antigen DIIIC-1), SEQ ID NO. 6 (antigen DIIIC-2), SEQ ID NO. 7 (antigen DIIIC-3), and SEQ ID No. 8 (antigen DIIIC- 4).
4. The vaccine composition of claim 1 which is characterized by comprising two of the chimeric antigens which are selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.
5. The vaccine composition of claim 1 which is characterized by comprising four chimeric antigens identified as SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.
6. Nucleic acid characterized by the sequence identified as SEQ ID NO. 1.
7. Use of the nucleic acid identified as SEQ ID NO. 1, to increase the immune response to a vaccine antigen, which comprises at least 50% of the sequence of the capsid protein of DV.
8. The use of claim 7 wherein the antigen that comprises at least 50% of the sequence of the capsid protein of DV is a recombinant antigen comprising amino acids 1 to 99 of said protein.
9. The use of claim 8 wherein the recombinant antigen comprising amino acids 1 to 99 of the capsid protein of DV is a chimeric antigen, which is selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.
10. A vaccine composition comprising a) at least one antigen that comprises at least 50% of the sequence of the capsid protein of DV and b) the oligonucleotide identified as SEQ ID NO. 1 for use in inducing an immune response against DV.

11. The vaccine composition of claim 10 wherein the antigen that comprises at least 50% of the sequence of the capsid protein of DV is a recombinant antigen comprising amino acids 1 to 99 of said protein.

12. The vaccine composition of claim 11 wherein the recombinant antigen comprising amino acids 1 to 99 of the capsid protein, is a chimeric antigen having an amino acid sequence that is selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.

13. The vaccine composition of claim 12, wherein the chimeric antigens identified as SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8 are for sequential administration in bivalent compositions.

14. The vaccine composition of claim 13, further comprising a booster dose of the tetravalent composition, comprising the four chimeric antigens identified as SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.

15. The vaccine composition of claim 10 wherein the vaccine composition comprising a) at least one antigen that comprises at least 50% of the sequence of the capsid protein of DV and b) the oligonucleotide identified as SEQ ID NO . 1 is for administration by subcutaneous, intradermal or intramuscular route.

CLAIMS

1. Vaccine composition characterized in that it comprises a) a recombinant antigen comprising amino acids 1 to 99 of the capsid protein of dengue virus (DV) and b) the oligonucleotide identified as SEQ ID NO. 1.
2. The vaccine composition of claim 1 wherein the recombinant antigen comprising amino acids 1 to 99 of the capsid protein is a chimeric antigen that is selected from the group consisting of SEQ ID NO. 5 (antigen DIIIC-1), SEQ ID NO. 6 (antigen DIIIC-2), SEQ ID NO. 7 (antigen DIIIC-3), and SEQ ID No. 8 (antigen DIIIC- 4).
3. The vaccine composition of claim 2 which is characterized by comprising two of the chimeric antigens which are selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.
4. The vaccine composition of claim 2 which is characterized by comprising four chimeric antigens identified as SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.
5. Isolated nucleic acid characterized by the sequence identified as SEQ ID NO. 1.
6. Use of the nucleic acid identified as SEQ ID NO. 1 for the manufacture of a medicament for increasing the immune response to a vaccine antigen, which comprises amino acids 1 to 99 of the capsid protein of DV.
7. The use according to claim 6 wherein the recombinant antigen comprising amino acids 1 to 99 of the capsid protein of DV is a chimeric antigen, which is selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.
8. A vaccine composition comprising a) a recombinant antigen comprising amino acids 1 to 99 of the sequence of the capsid protein of DV and b) the oligonucleotide identified as SEQ ID NO. 1 for use in inducing an immune response against DV.
9. The vaccine composition of claim 8 wherein the recombinant antigen comprising amino acids 1 to 99 of the capsid protein, is a chimeric antigen having an amino acid sequence that is selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.

10. The vaccine composition of claim 9, wherein the composition comprises two of the chimeric antigens selected from the group consisting of SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8 to thereby form two bivalent compositions, wherein said bivalent compositions are for sequential administration.

11. The vaccine composition of claim 10, further comprising a booster dose of the tetravalent composition, comprising the four chimeric antigens identified as SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7 and SEQ ID No. 8.

12. The vaccine composition of claim 8 wherein the vaccine composition comprising a) a recombinant antigen comprising amino acids 1 to 99 of the sequence of the capsid protein of DV and b) the oligonucleotide identified as SEQ ID NO. 1 is for administration by subcutaneous, intradermal or intramuscular route.