WHAT IS CLAIMED IS:

1. An isolated monoclonal antibody, comprising: a heavy chain having an amino acid sequence of SEQ. ID NO. 1, wherein the heavy chain or a segment of the heavy chain comprises an Fc region characterized as IgA Fc domain.

2. The isolated monoclonal antibody of claim 1, wherein the IgA Fc domain is an IgA1 Fc domain or an IgA2 Fc domain.

3. The isolated monoclonal antibody of claim 1, wherein the antibody is chimeric or humanized.

4. The isolated monoclonal antibody of claim 1, further comprising: a light chain having an amino acid sequence of SEQ ID. NO. 2.

5. An isolated monoclonal antibody, comprising:

a heavy chain having an amino acid sequence having at least 90%, preferably at least 99%, sequence identity to SEQ. ID NO. 1, wherein the heavy chain or a segment of the heavy chain comprises an Fc region characterized as IgA Fc domain; and optionally,

a light chain having an amino acid sequence having at least 90%, preferably at least 99%, sequence identity to SEQ ID. NO. 2.

6. The isolated monoclonal antibody of claim 1 or 5, wherein the isolated monoclonal antibody binds a fusion loop epitope (FLE) of a Dengue virus.

7. A nucleic acid polymer encoding a monoclonal antibody, wherein the polymer comprises SEQ. ID NO. 1 or SEQ. ID NO. 2.

8. A complementary deoxynucleotide (cDNA) sequence encoding an amino acid sequence having at least 90%, at least 95%, or at least 99% sequence identity to SEQ ID NO: 1 or SEQ ID NO: 2.

9. A complementary deoxynucleotide (cDNA) sequence comprising a nucleic acid sequence of SEQ ID NO: 3 or SEQ ID NO: 4.

10. Use of a therapeutically effective amount of the monoclonal antibody of any one of claims 1-6 in the manufacture of a medicament for preventing or treating a dengue viral infection in a subject.

11. Use of a therapeutically effective amount of a monoclonal antibody comprising a heavy chain or a segment of the heavy chain comprising an Fc region characterized as IgA Fc domain, in the manufacture of a medicament for preventing or treating antibody-dependent enhancement of a viral infection, wherein the IgA Fc domain is characterized as an isotypic commutation or is formed by class-switch recombination.

12. The use of claim 11, wherein the viral infection is any one of respiratory syncytial virus (RSV), influenza, and coronavirus infection, or a combination thereof.

13. The use of claim 10, wherein the viral infection is a flavivirus infection, preferably a Zika virus or a dengue virus.

14. The use of claim 11, wherein the therapeutically effective amount of the monoclonal antibody of:

a) a monoclonal antibody encoded by a DNA polymer of claim 7;

b) a cDNA of claim 8 or 9; or

c) a monoclonal antibody of any one of claims 1-6, is to be administered.

15. The use of claim 14, wherein the monoclonal antibody is to be disposed with a serum comprising one or more additional antibodies or fragments thereof directed against dengue virus or bind one or more epitopes of dengue virus.

16. The use of claim 11, wherein a concentration of antibodies characterized as IgA in a serum comprising one or more additional antibodies is to be increased.

17. The use of claim 11, wherein the antibody is a wild-type IgA isoform that binds dengue protein E.

18. The use of claim 11, wherein the antibody is synthetic, formed by recombinant technology, or characterized as isolated.

19. Use of a therapeutically effective amount of a monoclonal antibody in the manufacture of a medicament for preventing or treating antibody-dependent enhancement of a viral infection, wherein the monoclonal antibody is characterized as an IgA isoform.

20. The use of claim 19, wherein the monoclonal antibody comprises a heavy chain or a segment of the heavy chain comprising an Fc region characterized as IgA Fc domain; and wherein the Fc region characterized as IgA Fc domain comprises an amino acid sequence between S31 and Y475 of SEQ ID NO. 1, an amino acid segment between G51 and Y475 of SEQ ID NO: 1, an amino acid segment between L101, or an amino acid segment between A181 and Y475, wherein SEQ ID NO: 1 is used for numbering.