CLAIMS

1. A recombinant MVA vector comprising a first nucleic acid encoding at least one immunogenic protein of a MARV envelope glycoprotein (GP); a second nucleic acid encoding an immunogenic protein of Zaire Ebola virus (ZEBOV) envelope glycoprotein; a third nucleic acid encoding an immunogenic protein of Sudan Ebola virus (SEBOV) envelope glycoprotein; and a fourth nucleic acid encoding an immunogenic protein of Ebola virus Ivory Coast nucleoprotein.

2. The recombinant MVA vector of claim 1, wherein the MARV envelope glycoprotein is full-length MARV-Musoke envelope glycoprotein.

3. The recombinant MVA vector of claim 1, wherein the first nucleic acid encodes an immunogenic protein comprising the sequence set forth in SEQ ID NO:6.

4. The recombinant MVA vector of claim 3, wherein the first nucleic acid comprises the sequence set forth in SEQ ID NO:5.

5. The recombinant MVA vector of claim 1 that comprises a nucleic acid encoding an immunogenic protein having a sequence selected from the group consisting of: SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:20, SEQ ID NO:29, SEQ ID NO:31, and SEQ ID NO:37.

6. The recombinant MVA vector of claim 1 that comprises a nucleic acid encoding an immunogenic protein comprising the sequence set forth in SEQ ID NO:6, SEQ ID NO:20, SEQ ID NO:29, or SEQ ID NO:31.

7. The recombinant MVA vector of claim 6, wherein said nucleic acid comprises the sequence set forth in SEQ ID NO:5, SEQ ID NO:19, SEQ ID NO:28, or SEQ ID NO:30.

8. The recombinant MVA vector of claim 1, wherein, when administered, the administration provides protective immunity or a protective immune response in the subject.

9. The recombinant MVA vector of claim 1, wherein the recombinant MVA vector comprises at least one nucleic acid encoding the sequences set forth in SEQ ID NO:6, SEQ ID NO:20, SEQ ID NO:29, and SEQ ID NO:31.

10. The recombinant MVA vector of claim 1 further comprising a nucleic acid encoding CD40L.

11. The recombinant MVA vector of claim 10, wherein the CD40L comprises the amino acid sequence set forth in SEQ ID NO:10.

12. The recombinant MVA vector of claim 11, wherein the nucleic acid encoding CD40L comprises the sequence set forth in SEQ ID NO:9.