CLAIMS:

1. A chimeric protein comprising an ectodomain of a SARS-CoV-2 spike protein and a cytoplasmic tail portion of an RSV fusion (F) protein.

2. The chimeric protein of Claim 1, wherein the chimeric protein comprises, in an N- to C-terminal direction, the ectodomain of the SARS-CoV-2 spike protein and the cytoplasmic tail portion of the RSV fusion (F) protein.

3. The chimeric protein of Claim 1, wherein the chimeric protein further comprises a transmembrane portion of the SARS-CoV-2 spike protein.

4. The chimeric protein of Claim 1, wherein the chimeric protein comprises a sequence selected from the group consisting of SEQ ID NOs: 1-6, 62, 68, 74, 80, 86, 92, 98, and 110 or a variant thereof having at least about 85% (*e.g.*, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99%) sequence identity to a sequence selected from the group consisting of SEQ ID NOs: 1-6, 62, 68, 74, 80, 86, 92, 98, and 110.

5. An immunogenic composition comprising live chimeric virus comprising a nucleic acid encoding the chimeric protein of any one of Claims 1-4.

6. The immunogenic composition of Claim 5, wherein the nucleic acid comprises a sequence selected from the group consisting of SEQ ID NOs: 7-12, 63, 69, 75, 81, 87, 93, 99, and 111 or a variant thereof having at least about 85% (*e.g.*, at least about 90%, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99%) sequence identity to a sequence selected from the group consisting of SEQ ID NOs: 7-12, 63, 69, 75, 81, 87, 93, 99, and 111, or an RNA counterpart of any of the foregoing, or a complementary sequence of any of the foregoing.

7. The immunogenic composition of Claim 5 or Claim 6, further comprising an NS1 and/or an NS2 protein of RSV.

8. The immunogenic composition of any one of claims 5-7, wherein the live chimeric virus does not comprise a gene that encodes RSV G protein.

9. The immunogenic composition of any one of claims 5-8, further comprising an adjuvant and/or other pharmaceutically acceptable carrier.

10. The immunogenic composition of Claim 9, wherein the adjuvant is an aluminum gel, aluminum salt, or monophosphoryl lipid A.

11. The immunogenic composition of Claim 9, wherein the adjuvant is an oil-in-water emulsion optionally comprising α-tocopherol, squalene, and/or a surfactant.

12. The immunogenic composition of any one of Claims 5-11 for use in therapy.

13. Use of the immunogenic composition of any one of claims 5-11 in the manufacture of a medicament for treating or preventing COVID-19 disease.

14. The use of claim 13, wherein the medicament is to be intranasally administered.

15. The use of claim 13 or 14, wherein the medicament is to be administered at a dose of between about 10^3 and about 10^6.

16. The use of any one of claims 13-15, wherein administration of the medicament induces a SARS-CoV-2 spike-specific mucosal IgA response or generates serum neutralizing antibodies.

17. A nucleic acid encoding the chimeric protein of Claim 1 or Claim 2.

18. The nucleic acid of Claim 17 comprising a sequence selected from the group consisting of SEQ ID NOs: 7-12, 63, 69, 75, 81, 87, 93, 99, and 111 or a variant thereof having at least about 85% (*e.g.*, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99%) sequence identity to a sequence selected from the group consisting of SEQ ID

NOs: 7-12, 63, 69, 75, 81, 87, 93, 99, and 111, or an RNA counterpart of any of the foregoing, or a complementary sequence of any of the foregoing.

19. A vector comprising a nucleic acid of Claim 17 or Claim 18.

20. The vector of Claim 19 selected from a plasmid or a bacterial artificial chromosome.

21. The vector of Claim 20, wherein the vector is a bacterial artificial chromosome comprising a sequence selected from the group consisting of SEQ ID NOs: 54-59, 66, 67, 72, 73, 78, 79, 84, 85, 90, 91, 96, 97, 102, 103, 114, 115, and 131-136 or a variant thereof having at least about 85% (*e.g.*, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99%) sequence identity to a sequence selected from the group consisting of SEQ ID NOs: 54-59, 66, 67, 72, 73, 78, 79, 84, 85, 90, 91, 96, 97, 102, 103, 114, 115, and 131-136.

22. An isolated recombinant particle comprising an NS1 and/or an NS2 protein of RSV and the chimeric F protein of Claim 1 or Claim 2.

23. The isolated recombinant particle of Claim 22, comprising a live attenuated chimeric RSV- SARS-CoV-2 genome or antigenome.

24. A live attenuated chimeric RSV-SARS-CoV-2 antigenome comprising a sequence selected from the group consisting of SEQ ID NOs: 13-18, 65, 71, 77, 83, 89, 95, 101, 104-109, and 113 or a variant thereof having at least about 85% (*e.g.*, at least about 90%, at least about 95%, at least about 96%, at least about 97%, at least about 98%, or at least about 99%) sequence identity to a sequence selected from the group consisting of SEQ ID NOs: 13-18, 65, 71, 77, 83, 89, 95, 101, 104-109, and 113, or an RNA counterpart of any of the foregoing, or a complementary sequence of any of the foregoing.