

## CLAIMS

1. An immunogenic composition comprising a circular polyribonucleotide comprising a sequence encoding a coronavirus antigen, wherein the coronavirus antigen is from severe acute respiratory syndrome (SARS)-related coronavirus or a fragment thereof.
2. A immunogenic composition comprising a circular polyribonucleotide comprising a sequence encoding a coronavirus antigen, wherein the coronavirus antigen comprises a sequence having at least about 80%, 85%, 90%, 95%, 97%, 98%, 99%, or 100% sequence identity to a coronavirus antigen selected from any one of SEQ ID NOs: 1-10, 13, 15, 17 19, 21, 23, 25-30, 48, and 49, or the circular polyribonucleotide comprises a sequence having at least about 80%, 85%, 90%, 95%, 97%, 98%, 99%, or 100% sequence identity to a circular polyribonucleotide selected from SEQ ID NOs: 12, 14, 16, 18, 20, 22, and 24.
3. The immunogenic composition of any one of the preceding claims, wherein the coronavirus antigen is from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) or a fragment thereof, or severe acute respiratory syndrome coronavirus 1 (SARS-CoV-1) or a fragment thereof.
4. The immunogenic composition of any one of the preceding claims, wherein the coronavirus antigen is a membrane protein or a variant or fragment thereof, an envelope protein of a virus or a variant or fragment thereof, a spike protein of a virus or a variant or fragment thereof, a nucleocapsid protein of a virus or a variant or fragment thereof, or an accessory protein of a virus or a variant or fragment thereof.
5. The immunogenic composition of any one of the preceding claims wherein the coronavirus antigen is a receptor binding domain of spike protein or a variant or fragment thereof.
6. The immunogenic composition of claim 5, wherein the spike protein lacks a cleavage site.
7. The immunogenic composition of any one of the preceding claims, wherein the accessory protein of a coronavirus is selected from a group consisting of ORF3a, ORF7a, ORF7b, ORF8, ORF10, and any variant or fragment thereof.
8. The immunogenic composition of any one of the preceding claims, wherein the circular polyribonucleotide comprises a plurality of sequences, each encoding an antigen, and at least one sequence encodes the coronavirus antigen.
9. The immunogenic composition of any one of the preceding claims, wherein the circular polyribonucleotide comprises two or more ORFs.

10. The immunogenic composition of any one of the preceding claims, wherein the circular polyribonucleotide comprises sequences encoding antigens from at least two different microorganisms, and at least one microorganism is a coronavirus.
11. The immunogenic composition of any one of the preceding claims, further comprising a second circular polyribonucleotide comprising a sequence encoding a second antigen.
12. The immunogenic composition of any one of the preceding claims, further comprising a second circular polyribonucleotide comprising a second ORF.
13. The immunogenic composition of any one of the preceding claims, further comprising a third, fourth, or fifth circular polyribonucleotide comprising a sequence encoding a third, fourth, or fifth antigen.
14. The immunogenic composition of any one of the preceding claims, wherein the first antigen, second antigen, third antigen, fourth antigen, and fifth antigen are different antigens.
15. The immunogenic composition of any one of the preceding claims, wherein the immunogenic composition further comprises a pharmaceutically acceptable carrier or excipient.
16. The immunogenic composition of any one of the preceding claims, wherein the immunogenic composition further comprises a pharmaceutically acceptable excipient and is free of any carrier.
17. Use of the immunogenic composition of any one of the preceding claims in the manufacture of a medicament for delivering an immunogenic composition to a human subject.
18. Use of the immunogenic composition of any one of the preceding claims in the manufacture of a medicament for inducing an immune response against a coronavirus antigen in a non-human animal or human subject.
19. The use of any one of the preceding claims, wherein an adjuvant is to be further administered to the non-human animal or human subject.
20. The use of any one of the preceding claims, wherein the circular polyribonucleotide is to be further administered at least two times to the non-human animal or human subject.

21. The use of any one of the preceding claims, wherein the non-human animal or human subject is to be further administered or immunized with a vaccine.