WHAT IS CLAIMED IS:

1. Use of a therapeutically effective amount of pegylated interferon lambda-1a in the manufacture of a medicament for treating a coronavirus infection in a subject, wherein the medicament is to be subcutaneously administered to the subject until one or more of:

a sustained reduction of coronavirus viral load is reached,

a decrease in coronavirus RNA to undetectable levels is reached,

a decrease in a rate or an amount of viral shedding is reached, or

an improvement in the subject's symptoms is reached.

2. The use of claim 1, wherein the pegylated interferon lambda-1a is to be administered for at least 1 week, 2 weeks, 3 weeks, 4 weeks, from 1 – 12 weeks, from 2 – 12 weeks, or from between 3 weeks and 24 weeks.

3. The use of claim 1 or 2, wherein the pegylated interferon lambda-1a is to be administered at a dose of 180 micrograms once a week, 90 micrograms twice per week, 80 micrograms twice per week, or 180 micrograms per week.

4. The use of claim 1 or 2, wherein the pegylated interferon lambda-1a is to be administered at a dose of 120 micrograms once a week, 60 micrograms twice per week, 70 micrograms twice per week, or 120 micrograms per week.

5. The use of claim 1 or 2, wherein the pegylated interferon lambda-1a is to be administered at a dose of (i) 160 - 180 micrograms per week for a first treatment period, and then at a dose of 150 - 170 micrograms per week for a second treatment period; or at a dose of (ii) 180 micrograms per week for a first treatment period, and then at a dose of between 170 - 120 micrograms per week for a second treatment period, wherein the doses to be administered for each of (i) and (ii) may be divided into more than one dose per week.

6. The use of claim 1 or 2, wherein the pegylated interferon lambda-1a is to be administered at a dose of 120 micrograms per week for a first treatment period, and then at a dose of 80 micrograms per week for a second treatment period; or at a dose of 180 - 120 micrograms per week for a first treatment period and then at a dose of 120 - 80 micrograms per week for a second treatment period, wherein the doses may be divided into more than one dose per week.

7. The use of claim 5, wherein the first treatment period is longer than the second treatment period, or the second treatment period is longer than the first treatment period, or first treatment period and the second treatment period are the same length of time.

8. The use of claim 5, wherein the first treatment period has a duration of at least 1 week, at least 2 weeks, at least 6 weeks, or at least 8 weeks.

9. The use of claim 1, wherein administration of the medicament results in a reduction of coronavirus viral load in the subject of at least 2.0 $\log_{10}$ coronavirus RNA IU/mL serum.

10. The use of claim 1, wherein administration of the medicament results in an improvement in the subject's symptoms.

11. The use of claim 1, wherein the improvement in a subject's symptoms include a reduction in fever, feeling less tired, a decrease in coughs, less or no shortness of breath, decreased feeling of aches and pains, and less or no diarrhea.

12. The use of claim 1, wherein administration of the medicament results in a coronavirus viral load that is below the level of detection.

13. The use of claim 1, wherein the medicament is to be administered to the subject with an antiviral.

14. The use of claim 13, wherein the antiviral comprises one or more of remdesivir, chloroquine, tenofovir, entecavir, protease inhibitors (lopinavir/ritonavir).

15. The use of claim 1, wherein prior to administration of the medicament, the subject has a baseline viral load of up to about 10^4 coronavirus RNA copies per mL sample.

16. The use of claim 1, wherein a durable virologic response (DVR) is seen in the subject after administration.

17. The use of claim 1, where the subject has one or more of the following symptoms: pneumonia, fever, cough, shortness of breath, and muscle ache.

18. The use of claim 1, wherein the coronavirus is a zoonotic virus.

19. The use of claim 1, wherein the pegylated interferon lambda-1a is to be administered during an early phase of the coronavirus infection, and wherein the medicament

shortens the duration of the coronavirus infection and prevents development of respiratory complications.

20. The use of claim 19, wherein the early phase of the coronavirus infection comprises one or more of: days 1 – 10 after initial viral load is determined, prior to experiencing respiratory symptoms that require hospitalization; a period when the subject is experiencing mild to moderate respiratory symptoms; a period when the subject is asymptomatic; or a period when the subject displays mild symptoms of respiratory infection with no respiratory distress.

21. The use of claim 20, wherein the mild symptoms of respiratory infection with no respiratory distress comprises a temperature <39.0 degrees C, respiratory rate < 25, O2% Sat > 95% in room air or with supplemental oxygen through nasal cannula, or P/F ratio > 150.

22. The use of claim 1, wherein the subject has not demonstrated one or more of the following abnormal laboratory test in the 12 months prior to administration: platelet count <90,000 cells/mm3; white blood cell (WBC) count <3,000 cells/mm3; absolute neutrophil count (ANC) <1,500 cells/mm3; hemoglobin <11 g/dL for women and <12 g/dL for men; estimated creatinine clearance (CrCl) < 50 mL/min by Cockroft-Gault formulation; ALT and/or ALT levels > 10 times the upper limit of normal; bilirubin level ≥ 2.5 mg/dL unless due to Gilbert's syndrome; serum albumin level <3.5 g/dL; or international normalized ratio (INR) ≥1.5 (except patients maintained on anticoagulant medications).

23. The use of claim 1, wherein the rate or amount of viral shedding is determined by RT-PCR negativity or a measurement of a reduced amount of virus.

24. The use of claim 1, wherein an improvement in symptoms is determined by clinical improvement O2 status.

25. The use of claim 1, wherein the subject is a mild, non-hospitalized subject; a mild to moderate, non-hospitalized subject; a mild to moderate, hospitalized subject; a mild to moderate, hospitalized and requiring supportive O2 subject; or an exposed subject with no symptoms.

26. The use of claim 1, wherein the pegylated interferon lambda-1a is to be administered at a dose of 120 or 180 mcg weekly.

27. The use of claim 1, wherein the subject is a mild to moderate, hospitalized subject, and wherein the pegylated interferon lambda-1a is to be administered as one or two doses of 120 or 180 mcg weekly.

28. The use of claim 1, wherein RT-PCR is used to test for viral load at days 7 and 14 of treatment, and wherein the subject exhibits lower viral loads at days 7 and 14 than a patient with similar disease status at initiation of treatment that received only standard supportive care.

29. The use of claim 1, wherein the subject is a mild to moderate subject, and wherein the subject exhibits a decreased rate or amount of viral shedding.

30. The use of claim 1, wherein the subject is a mild to moderate, hospitalized subject requiring supportive O2, and wherein the subject demonstrates clinical improvement in oxygen status (ordinal scale) as compared to a patient with similar disease status at initiation of treatment that only received standard supportive care.

31. The use of claim 30, wherein the subject is to be administered two doses of interferon lambda one week apart.

32. The use of claim 1, wherein the subject has mild to moderate disease and is non-hospitalized or hospitalized, wherein the pegylated interferon lambda-1a is to be administered at a dose of 120 or 180 mcg twice weekly, and wherein the subject exhibits a lower rate of viral shedding as measured by RT-PCR negativity at Day 7 and/or Day 14 of treatment.

33. Use of interferon lambda in the manufacture of a medicament for treating or preventing SARS-CoV-2 infection in a subject, wherein the interferon lambda is to be administered to the subject by subcutaneous injection in a dose of 120 or 180 mcg weekly or biweekly, wherein the subject is RT-PCR negative at Day 14 after a first dose of interferon lambda.

34. The use of claim 33, wherein the subject has a lower RT-PCR level of SARS-CoV-2 than a subject receiving standard supportive care.

35. Use of interferon lambda in the manufacture of a medicament for treating or preventing SARS-CoV-2 infection in a subject exposed to SARS-CoV-2, wherein the subject is to be administered 180 mcg of the interferon lambda as a subcutaneous injection, wherein the subject exhibits a lower viral load at day 7 after the injection than a subject with similar disease status at initiation of treatment receiving standard supportive care.

36. The use of claim 35, wherein the subject exhibits a lower conversion rate to infection than a patient with similar disease status at initiation of treatment that was not administered interferon lambda.

37. The use of claim 35 or 36, wherein the subject has had exposure to SARS-CoV-2 with no confirmed infection.

38. Use of interferon lambda in the manufacture of a medicament for treating SARS-CoV-2 infection in a subject, or treating a subject having been exposed to SARS-CoV-2, wherein the subject is to be administered interferon lambda at a dose of 180 mcg, wherein the subject has one or more of the following, as compared to a control:

a reduced duration of viral shedding of SARS-CoV-2 virus,

a reduction in the duration of symptoms, or

a reduction in the rate of hospitalization between Day 1 and Day 28 of treatment.

39. The use of claim 38, wherein the interferon lambda is to be administered subcutaneously.

40. The use of claim 38 or 39, wherein the interferon lambda is interferon lambda-1a.

41. The use of claim 38, wherein the interferon lambda is pegylated interferon lambda.

42. The use of claim 38, wherein the rate of hospitalization includes visits to an emergency room.

43. The use of claim 1, wherein the subject has a viral load equal to or greater than 6 $\log_{10}$ copies/mL.

44. The use of claim 1, wherein the subject has a viral load of from about 6 $\log_{10}$ IU/mL to about 11 $\log_{10}$ IU/mL.

45. Use of interferon lambda in the manufacture of a medicament for treating a coronavirus infection in a subject, wherein 120 mcg to 180 mcg of interferon lambda is to be subcutaneously administered to the subject, wherein the subject has a viral load greater than or equal to 10^6 SARS-CoV-2 RNA copies/mL or greater than or equal to 6 $\log_{10}$ IU/mL.

46. The use of claim 45, wherein the interferon lambda is to be administered at a dose of 120 mcg or 180 mcg, and wherein the subject exhibits a lower rate of viral shedding as measured by viral load negativity at Day 7, Day 14 and/or Day 28 of treatment as compared to at the initiation of treatment.

47. The use of claim 45 or claim 46, wherein the subject has a viral load of from about 6 $\log_{10}$ IU/mL to about 11 $\log_{10}$ IU/mL.

48. The use of claim 1 or claim 45, wherein the time to shedding cessation is faster in a seropositive subject relative to a seronegative subject at baseline.

49. The use of claim 45, wherein the subject has a greater decline in SARS-CoV-2 RNA viral load decline from baseline at Day 5 of treatment, as compared to a control.

50. The use of claim 46, wherein the subject is about 4.1-fold or 95% more likely to clear virus by Day 7 of treatment, as compared to a control.

51. The use of claim 46, wherein the subject has a viral load greater than or equal to 6 $\log_{10}$ IU/mL, and wherein the subject is viral negative by Day 7 of treatment.

52. The use of claim 46, wherein the subject clears the virus by Day 7 of treatment.

53. The use of claim 46, wherein the interferon lambda is pegylated interferon lambda-1a.