by CCL5 binding to the CCR5 receptor. The competitive inhibitors to the CCR5 receptor of the present disclosure may or may not have CCL5 agonist activity upon binding to the CCR5 receptor. Preferred competitive inhibitors to the CCR5 receptor of the present disclosure do not have CCL5 agonist activity upon binding to the CCR5 receptor.

In one aspect, the present invention refers to use of leronlimab or conjugate of leronlimab in the manufacture of a medicament for treating inflammation associated with a respiratory tract infection in a subject in need of immunomodulatory intervention, wherein the leronlimab or conjugate of leronlimab (i) does not itself have CCL5 agonist activity; (ii) reduces CCL5 ligand and CCR5 receptor signaling in the subject; and (iii) measurably reduces an immunomodulatory downstream effect of the CCL5 ligand bound to CCR5 receptor activity.

In another aspect, the present invention refers to use of leronlimab or conjugate of leronlimab, in the manufacture of a medicament for treating a respiratory tract infection in a subject, wherein the leronlimab or conjugate of leronlimab inhibits CCL5 ligand bound to CCR5 receptor activity and measurably reduces one or more immunomodulatory downstream effects of CCL5 ligand bound to CCR5 receptor activity.

In a preferred example, the competitive inhibitors to the CCR5 receptor of the present disclosure when bound to the CCR5 receptor do not have detectable CCL5 agonist activity (in terms of decreased cAMP measurements or induced cell migration) and at the same time stymie the effects of CCL5 ligands bound to CCR5 receptors. That is, in an example of the present disclosure, the competitive inhibitors to the CCR5 receptor do not have independent CCL5 agonist activity.

The competitive inhibitors to the CCR5 receptor of the present disclosure may cause therapeutic effect in a dose dependent manner. Accordingly, it is contemplated that the amount of active agent administered to a subject may be adjusted to meet their immunomodulatory needs, whether these are of minor, moderate, or severe nature.

CLAIMS

1. Use of leronlimab or conjugate of leronlimab in the manufacture of a medicament for treating inflammation associated with a respiratory tract infection in a subject in need of immunomodulatory intervention, wherein the leronlimab or conjugate of leronlimab (i) does not itself have CCL5 agonist activity; (ii) reduces CCL5 ligand and CCR5 receptor signaling in the subject; and (iii) measurably reduces an immunomodulatory downstream effect of the CCL5 ligand bound to CCR5 receptor activity.

2. The use of claim 1, wherein the leronlimab or conjugate of leronlimab results in increased cAMP levels in the presence of CCL5 ligand in the subject.

3. The use of claim 1, wherein the leronlimab or conjugate of leronlimab reduces cell migration in the presence of CCL5 ligand in the subject.

4. The use of claim 1, further comprising that the subject is to be tested to measure the immunomodulation triggered by the use of the leronlimab or conjugate of leronlimab.

5. The use of claim 1, further comprising that the subject is to be monitored to assess the therapeutic effectiveness of the leronlimab or conjugate of leronlimab.

6. The use of claim 1, further comprising that a dose amount of the leronlimab or conjugate of leronlimab is to be adjusted to achieve down-regulation of T-cell migration to an inflammatory site in the presence of CCL5 ligand in the subject.

7. The use of claim 1, further comprising that a dose amount of the leronlimab or conjugate of leronlimab is to be adjusted to achieve increased cAMP levels in CD4+ CCR5 T-cells in the presence of CCL5 ligand in the subject.

8. The use of claim 1, further comprising that an immunomodulatory intervention with maraviroc is to be replaced with leronlimab or conjugate of leronlimab.

9. The use of claim 1, further comprising that an immunomodulatory intervention with maraviroc is to be supplemented with leronlimab or conjugate of leronlimab.

10. Use of leronlimab or conjugate of leronlimab in the manufacture of a medicament for treating inflammation associated with a respiratory tract infection in a

subject, wherein the leronlimab or conjugate of leronlimab inhibits CCL5 ligand bound to CCR5 receptor activity and measurably reduces one or more immunomodulatory downstream effects of CCL5 ligand bound to CCR5 receptor activity.

11. The use of claim 10, wherein the leronlimab or conjugate of leronlimab results in increased cAMP levels in the presence of CCL5 ligand in the subject.

12. The use of claim 10, wherein the leronlimab or conjugate of leronlimab reduces cell migration in the presence of CCL5 ligand in the subject.

13. The use of claim 10, further comprising that the subject is to be monitored to assess the therapeutic effectiveness of the leronlimab or conjugate of leronlimab.

14. The use of claim 10, further comprising that a dose amount of the leronlimab or conjugate of leronlimab is to be adjusted to achieve down-regulation of T-cell migration to an inflammatory site in the presence of CCL5 ligand in the subject.

15. The use of claim 10, further comprising that a dose amount of the leronlimab or conjugate of leronlimab is to be adjusted to achieve increased cAMP levels in CD4+ CCR5 T-cells in the presence of CCL5 ligand in the subject.

16. The use of claim 10, further comprising that an immunomodulatory intervention with maraviroc is to be replaced with leronlimab or conjugate of leronlimab.

17. The use of claim 10, further comprising that an immunomodulatory intervention with maraviroc is to be supplemented with leronlimab or conjugate of leronlimab.

18. The use of claim 10, further comprising that a second competitive inhibitor to a CCR5 cell receptor is to be administered.

19. The use according to any of the preceding claims, wherein a dose amount comprises leronlimab at a concentration of 175 mg/mL.

20. The use according to any of the preceding claims, wherein a dose is provided as a subcutaneous dose.

21. The use according to any of the preceding claims, wherein said subject has a respiratory viral disease.

22. The use according to any of the preceding claims, wherein said subject has respiratory syncytial virus (RSV).

23. The use according to any of the preceding claims, wherein said subject has severe acute respiratory syndrome (SARS).