CLAIMS:

1. A method of treating or preventing inflammatory bowel disease in a human subject in need thereof, the method comprising administering to the subject a composition comprising mesenchymal lineage precursor or stem cells (MLPSCs), wherein the composition is administered to the gastrointestinal tract wall of the subject.

2. The method of claim 1, wherein the composition is administered to the submucosal layer of the subjects gastrointestinal tract wall.

3. The method of claim 1 or claim 2, wherein the composition is administered to a site of inflammation in the subjects gastrointestinal tract wall.

4. The method according to any one of claims 1 to 3, wherein the composition is administered to the colon and/or rectum of the subject.

5. The method according to any one of claims 1 to 4, wherein the composition is administered via intra-luminal injection.

6. The method according to any one of claims 1 to 5, wherein the subject is refractory to at least one anti-TNF therapy.

7. The method according to any one of claims 1 to 6, wherein the subject is refractory to steroid immunosuppressant and/or a biologic therapy.

8. The method according to any one of claims 1 to 7, wherein the inflammatory bowel disease is Crohn's disease or ulcerative colitis.

9. The method of claim 8, wherein the inflammatory bowel disease is Crohn's disease.

10. The method of claim 9, wherein the Crohn's disease presents in the rectum and/or colon of the subject.

11. The method according to any one of claims 1 to 10, wherein the subject has a partial clinical and/or endoscopic response at least 28 days after treatment.

12. The method according to any one of claims 1 to 10, wherein the subject has a partial clinical and/or endoscopic response at least 28 to 56 days after treatment.

13. The method of claim 11 or 12 wherein partial clinical response is characterized by one or more or all of:
    - >25% reduction in C-reactive protein (CRP);
    - Decrease in CD Activity Index (CDAI) by <100 points;
    - radiographic healing as assessed via MR enterography with improvement of inflammation.

14. The method of claim 11 or 12 wherein partial endoscopic response is characterized by one or both of:
    - Decreased Simple Endoscopic Score for Crohn Disease (SES-CD) by >25% and an SES-CD < 50%;
    - SES-CD score of 10-15.

15. The method according to any one of claims 1 to 10, wherein the subject has a clinical and/or endoscopic response at least 28 days after treatment.

16. The method according to any one of claims 1 to 10, wherein the subject has a clinical and/or endoscopic response at least 28 to 56 days after treatment.

17. The method of claim 15 or 16 wherein clinical response is characterized by one or more or all of:
    - Reduction in CRP by >50%;

- Normalization of CRP;
- ≥100 point drop in CDAI;
- radiographic healing as assessed via MR enterography with improvement of inflammation.

18. The method of claim 15 or 16 wherein endoscopic response is characterized by one or both of:
    - Decreased SES-CD by >25% but < 50%;
    - SES-CD score of 5-10.

19. The method according to any one of claims 1 to 10, wherein the subject is in clinical and/or endoscopic remission at least 28 days after treatment.

20. The method according to any one of claims 1 to 10, wherein the subject is in clinical and/or endoscopic remission at least 28 to 56 days after treatment.

21. The method of claim 19 or 20 wherein clinical remission is characterized by one or both of:
    - normalization of CRP to <2.87 mg per litre;
    - radiographic healing as assessed via MR enterography with improvement of inflammation.

22. The method of claim 19 or 20 wherein endoscopic remission is characterized by one or both of:
    - absence of mucosal ulceration;
    - SES-CD score of 0-5.

23. The method according to any one of claims 1 to 22, wherein the MLPSCs are administered into the submucosal layer of the subjects colon wall.

24. The method according to any one of claims 1 to 23, wherein the MLPSCs are administered to multiple sites in the subjects gastrointestinal tract wall.

25. The method according to any one of claims 1 to 24, wherein the MLPSCs are mesenchymal stem cells (MSCs).

26. The method according to any one of claims 1 to 25, wherein the MLPSCs are allogeneic.

27. The method according to any one of claims 8 to 26, wherein the Crohn's disease is moderate to severe.

28. The method according to any one of claims 1 to 27, wherein the subject has a CDAI greater than 300.

29. The method according to any one of claims 8 to 28, wherein the Crohn's disease is fistulizing Crohn's disease.

30. The method according to any one of claims 1 to 29, wherein the mesenchymal lineage precursor or stem cells (MLPSCs) are administered via an endoscope.

31. The method according to any one of claims 1 to 29 which comprises administering between $1 \times 10^7$ and $2 \times 10^8$ cells.

32. The method according to any one of claims 1 to 29 which comprises administering between $1 \times 10^7$ and $2 \times 10^8$ cells to the gastrointestinal tract wall of the subject at two, three, four, five, six or more sites.

33. The method according to any one of claims 1 to 31, wherein the composition further comprises Plasma-Lyte A, dimethyl sulfoxide (DMSO), human serum albumin (HSA).

34. The method according to any one of claims 1 to 32, wherein the composition further comprises Plasma-Lyte A (70%), DMSO (10%), HSA (25%) solution, the HSA solution comprising 5% HSA and 15% buffer.

35. The method according to any one of claims 1 to 33, wherein the composition comprises greater than $6.68x10^6$ viable cells/mL.