CLAIMS

1. An apheresis column loaded with a solid support comprising one or more chemokines immobilized directly or indirectly on the support to permit removal of a cell expressing the cognate receptor of the one or more chemokines from the peripheral blood of a patient.

2. The column of claim 1, wherein said one or more chemokines are biotinylated and wherein the support comprises streptavidin immobilized thereon and wherein the one or more biotinylated chemokines are bound to the streptavidin on the support.

3. The column of claim 1 or 2 wherein said one or more chemokines are biotinylated via a spacer group.

4. The column of claim 3 wherein the spacer is a polyethylene glycol spacer.

5. The column of any preceding claim, wherein the support comprises or consists of a carbohydrate having a molecular weight of more than 100 kDa, optionally cross-linked.

6. The column of claim 5 wherein the carbohydrate is cross-linked agarose.

7. The column of any preceding claim, wherein said one or more chemokines is selected from CCL25, MIP-1a, MIP-1b, MCP-1, MCP-2, MCP-3, MCP-4, TARC, MDC, MIP-3, MIP-3a, MIP3b, MIP-4, I-309, HCC-1, HCC-2, SLC, IL-8, GROa, GROb, GROg, RANTES, NAP-2, ENA78, GCP-2, IP-10, MIG, I-TAC, SDF, fractalkine, lymphotactin, eotaxin, eotaxin-2, I-309, BLC.

8. The column of claim 7, wherein said one or more chemokines is CCL25.

9. The column of any preceding claim, wherein the support is in form of spheres, beads or particles of irregular form having an average size of from 50 μm to 2 mm.

10. The column of any preceding claim, wherein the support has been treated with an agent to provide it with anti-coagulation properties, such as a heparinized support.

11. The solid support of the column of any preceding claim.

12. A method of removing a cell expressing the cognate receptor of one or more chemokines from the peripheral blood of a patient, comprising:

    a. contacting collected peripheral blood with one or more chemokines immobilized on a solid support for a period of time sufficient to make said cell adhere to the support; and

    b. separating the blood depleted in regard of said cell from the support.

13. The method of claim 13 further comprising, prior to step a, collecting peripheral blood from the patient.

14. The method of claim 12 or 13 further comprising, following step b, infusing the depleted blood to the patient.

15. The method of any one of claims 12 to 14 wherein the cell is a leukocyte.

16. The method of claim 15 wherein the leukocyte is selected from a T lymphocyte, monocyte, neutrophil granulocyte or eosinophil granulocyte.

17. The method of any one of claims 12 to 16 which is used to treat an inflammatory condition.

18. The method of claim 17 wherein the inflammatory condition is an inflammatory bowel disorder (IBD).

19. The method of claim 18 wherein the IBD is ulcerative colitis or Crohn's disease.

20. The method of any one of claims 12 to 19, wherein said one or more chemokines are biotinylated and wherein the support comprises streptavidin immobilized thereon and wherein the one or more biotinylated chemokines are bound to the streptavidin on the support.

21. The method of claim 20 wherein said one or more chemokines are biotinylated via a spacer group.

22. The method of claim 21 wherein the spacer is a polyethylene glycol spacer.

23. The method of any one of claims 12 to 22, wherein said one or more chemokine is selected from CCL25, MIP-1a, MIP-1b, MCP-1, MCP-2, MCP-3, MCP-4, TARC, MDC, MIP-3, MIP-3a, MIP3b, MIP-4, I-309, HCC-1, HCC-2, SLC, IL-8, GROa,

GROb, GROg, RANTES, NAP-2, ENA78, GCP-2, IP-10, MIG, I-TAC, SDF, fractalkine, lymphotactin, eotaxin, eotaxin-2, I-309, BLC.

24. The method of claim 23, wherein said one or more chemokines is CCL25.

25. The method of any one of claims 12 to 24, wherein the peripheral blood is continuously collected from the patient and the depleted blood is continuously infused to the patient.

26. The method of any one of claims 12 to 25, wherein the support is disposed in a column through which the blood is made to flow.

27. The method of any one of claims 12 to 26, wherein the support is in form of spheres, beads or particles of irregular form having an average size of from 50 μm to 2 mm.

28. The method of any one of claims 12 to 27, wherein the support has been treated with an agent to provide it with anti-coagulation properties, such as a heparinized support and/or the peripheral blood has been treated with an anti-coagulant.

29. Use of the column of any of claims 1 to 10 or the support of claim 11 in the treatment of an inflammatory condition.

30. The use of claim 29 wherein the inflammatory condition is IBD.

31. Use of the column of any of claims 1 to 10 or the support of claim 11 in the treatment of a disease characterized by the presence of an increased level of a cell expressing the cognate receptor of the one or more chemokines.

32. The use of claim 31 wherein the cell is a leukocyte, in particular one or more of a T lymphocyte, monocyte, neutrophil granulocytes or eosinophil granulocyte in the peripheral blood of a diseased person.

33. A chemokine for use in the treatment of an inflammatory condition, wherein the chemokine is immobilized on a solid support.

34. Use of a chemokine in the manufacture of a medicament for the treatment of an inflammatory condition, wherein the chemokine is immobilized on a solid support.

35. The chemokine according to claim 33 or use according to claim 34 wherein the inflammatory condition is IBD.

36. A truncated CCL25 chemokine comprising the amino acid sequence set forth as SEQ ID NO: 1 and which is biotinylated at position 72 (lysine) in order to permit immobilization of the chemokine on a solid support.

37. The chemokine of claim 36 further comprising a PEG spacer between the biotin and the lysine residue.

CLAIMS

1. An apheresis column loaded with a solid support comprising one or more chemokines immobilized directly or indirectly on the support to permit removal of a cell expressing the cognate receptor of the one or more chemokines from the peripheral blood of a patient.
2. The column of claim 1, wherein said one or more chemokines are biotinylated and wherein the support comprises streptavidin immobilized thereon and wherein the one or more biotinylated chemokines are bound to the streptavidin on the support.
3. The column of claim 1 or 2 wherein said one or more chemokines are biotinylated via a spacer group.
4. The column of claim 3 wherein the spacer is a polyethylene glycol spacer.
5. The column of any preceding claim, wherein the support comprises or consists of a carbohydrate having a molecular weight of more than 100 kDa, optionally cross-linked.
6. The column of claim 5 wherein the carbohydrate is cross-linked agarose.
7. The column of any preceding claim, wherein said one or more chemokines is selected from CCL25, MIP-1a, MIP-1b, MCP-1, MCP-2, MCP-3, MCP-4, TARC, MDC, MIP-3, MIP-3a, MIP3b, MIP-4, I-309, HCC-1, HCC-2, SLC, IL-8, GROa, GROb, GROg, RANTES, NAP-2, ENA78, GCP-2, IP-10, MIG, I-TAC, SDF, fractalkine, lymphotactin, eotaxin, eotaxin-2, BLC.
8. The column of claim 7, wherein said one or more chemokines is CCL25.
9. The column of claim 8, wherein said one or more chemokines is a truncated CCL25 chemokine comprising the amino acid sequence set forth as SEQ ID NO: 1.
10. The column of claim 9, wherein said truncated CCL25 chemokine is biotinylated at position 72 (lysine) in order to permit immobilization of the chemokine on a solid support.
11. The column of claim 10, wherein said truncated CCL25 chemokine further comprises a PEG spacer between the biotin and the lysine residue.

12. The column of any preceding claim, wherein the support is in form of spheres, beads or particles of irregular form having an average size of from 50 µm to 2 mm.

13. The column of any preceding claim, wherein the support has been treated with an agent to provide it with anti-coagulation properties, such as a heparinized support.

14. A chemokine for use in the treatment of an inflammatory condition, wherein the chemokine is immobilized on a solid support; optionally wherein the inflammatory condition is IBD.