CLAIMS

1. Use of a population of human cells enriched for STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof in the manufacture of a medicament for treating or preventing a respiratory condition in a human.

2. Use according to Claim 1, in which the respiratory condition is an IgE-mediated respiratory allergic response to an allergen that causes a respiratory condition in humans.

3. Use according to Claim 1, in which the respiratory condition is an acute respiratory condition or a chronic respiratory condition.

4. Use according to Claim 1 or 3, in which the respiratory condition is an inflammatory respiratory condition, an obstructive respiratory condition or a restrictive respiratory condition.

5. Use according to Claim 2 or 3, in which the respiratory condition or IgE-mediated respiratory allergic response is an obstructive respiratory condition or allergy or an inflammatory lung condition or allergy.

6. Use according to Claim 5, in which the respiratory condition is asthma.

7. Use according to Claim 6, in which the asthma is acute asthma, chronic asthma, severe asthma and/or refractory asthma.

8. Use according to Claim 7, in which the asthma is long acting beta agonist (LABA) refractory asthma or steroid refractory asthma.

9. Use according to Claim 4, in which the respiratory condition is a restrictive respiratory condition.

10. Use according to Claim 9, in which the respiratory condition is idiopathic pulmonary fibrosis.

11. Use according to Claim 2, in which the IgE-mediated allergic response is allergy to house dust mite allergen (HDM) or the allergen is HDM.

12. Use according to any preceding claim, in which the medicament is formulated to be administered systemically.

13. Use according to Claim 12, in which the medicament is formulated to be administered intravenously or intranasally.

14. Use according to any preceding claim, in which the medicament is formulated for administration a plurality of times.

15. Use according to any preceding claim, in which the treating or preventing comprises, administering to the human subject a further dose of the medicament when one or more of the following occurs:

(i) a subject begins to persistently wheeze and/or cough and/or have chest tightness and/or have difficulty breathing;

(ii) a subject shows one or more of the following when assessed by spirometer:

(a) 20% difference on at least three days in a week for at least two weeks;

(b) ≥20% improvement of peak flow following treatment with:

10 minutes of inhaled β-agonist;

six weeks of inhaled corticosteroid;

14 days of 30 mg prednisolone; or

(c) ≥20% decrease in peak flow following exposure to a trigger;

(iii) bronchoscopy showing abnormal cells and/or foreign substances and/or blockages in the respiratory tract of a subject; or

(iv) chest CT scan showing abnormalities of the blood vessels in the lungs, accumulation of blood or fluid in the lungs, bronchiectasis, pleural effusion or pneumonia.

16. Use according to any preceding claim, in which the treating or preventing comprises administering a dose of the population and/or the culture-expanded cells sufficient to achieve one or more of the following:

(i) improved bronchial hyperresponsiveness;

(ii) reduced eosinophil infiltration of the lung or bronchoalveolar lavage fluid;

(iii) reduced neutrophil infiltration of the lung or bronchoalveolar lavage fluid;

(iv) reduced late asthmatic response;

(v) reduced early asthmatic response; and/or

(vi) reduced lung remodeling/fibrosis.

17. Use according to any preceding claim, in which the treating or preventing comprises administering between 1 x 10^6 to 150 x 10^6 STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof.

18. Use according to any preceding claim, in which the treating or preventing comprises administering a whole body dose of STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof.

19. Use according to Claim 18, in which the treating or preventing comprises administering 150x10^6 STRO-1^{bright} cells and/or culture-expanded cells thereof in 10mL to the subject.

20. Use according to any preceding claim, in which the STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof are autogeneic or allogeneic.

21. Use according to any preceding claim, in which the medicament comprises the culture-expanded cells.

22. Use according to any preceding claim, in which the STRO-1^{bright} cells express tissue non-specific alkaline phosphatase (TNAP).

23. Use according to any preceding claim, in which the medicament further comprises a carrier and/or excipient.

24. Use of a population of cells enriched for STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof in the manufacture of a medicament for treating or preventing a respiratory condition in a subject and/or for treating an IgE-mediated allergy and/or for reducing an allergic response to an allergen and/or for inducing anergy to an allergen and/or improving lung function in a subject suffering from an allergy.

CLAIMS

1. Use of a population of human cells enriched for STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof in the manufacture of a medicament for treating or preventing a respiratory condition in a human, in which the respiratory condition is selected from the group consisting of: an IgE-mediated allergic response to house dust mite allergen (HDM), long acting beta agonist (LABA) refractory asthma and steroid refractory asthma.

2. Use according to Claim 1, in which the respiratory condition is long acting beta agonist (LABA) refractory asthma or steroid refractory asthma.

3. Use according to Claim 1, in which the respiratory condition is an IgE-mediated allergic response to house dust mite allergen (HDM).

4. Use according to any preceding claim, in which the medicament is formulated to be administered systemically.

5. Use according to Claim 4, in which the medicament is formulated to be administered intravenously or intranasally.

6. Use according to any preceding claim, in which the medicament is formulated for administration a plurality of times.

7. Use according to any preceding claim, in which:

(i) a subject begins to persistently wheeze and/or cough and/or have chest tightness and/or have difficulty breathing;

(ii) a subject shows one or more of the following when assessed by spirometer:

(a) 20% difference on at least three days in a week for at least two weeks;

(b) ≥20% improvement of peak flow following treatment with:

10 minutes of inhaled β-agonist;

six weeks of inhaled corticosteroid;

14 days of 30 mg prednisolone; or

(c) ≥20% decrease in peak flow following exposure to a trigger;

(iii) bronchoscopy showing abnormal cells and/or foreign substances and/or blockages in the respiratory tract of a subject; or

(iv) chest CT scan of the subject shows abnormalities of the blood vessels in the lungs, accumulation of blood or fluid in the lungs, bronchiectasis, pleural effusion or pneumonia.

8. Use according to any preceding claim, in which the population of human cells in the medicament is sufficient to achieve one or more of the following:

(i) improved bronchial hyperresponsiveness;

(ii) reduced eosinophil infiltration of the lung or bronchoalveolar lavage fluid;

(iii) reduced neutrophil infiltration of the lung or bronchoalveolar lavage fluid;

(iv) reduced late asthmatic response;

(v) reduced early asthmatic response; and/or

(vi) reduced lung remodeling/fibrosis.

9. Use according to any preceding claim, in which the medicament comprises between 1 x 10^6 to 150 x 10^6 STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof.

10. Use according to any preceding claim, in which the medicament comprises a whole body dose of STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof.

11. Use according to Claim 10, in which the whole body dose comprises 150x10^6 STRO-1^{bright} cells and/or culture-expanded cells thereof in 10mL to the subject.

12. Use according to any preceding claim, in which the STRO-1^{bright} multipotential cells and/or culture-expanded cells thereof are autogeneic or allogeneic.

13. Use according to any preceding claim, in which the medicament comprises the culture-expanded cells.

14. Use according to any preceding claim, in which the STRO-1^{bright} cells express tissue non-specific alkaline phosphatase (TNAP).

15. Use according to any preceding claim, in which the medicament further comprises a carrier and/or excipient.