monosaccharides, disaccharides, trisaccharides, oligosaccharides and corresponding sugar alcohols, and polysaccharides, wherein the microparticles have a particle size of 1 to 8 microns.

In another aspect, the present invention provides for a use of microparticles as disclosed herein in the manufacture of a medicament for treating or preventing a lung disease.

In yet another aspect, the present invention provides for a therapeutic composition comprising microparticles as disclosed herein, and at least one additional pharmaceutical agent.

In yet another aspect, the present invention provides for an inhalation device comprising microparticles or a composition as disclosed herein.

Statements of the Invention

According to a first aspect of the present invention there is provided a microparticle or microparticles comprising a sulphur-containing compound, or a pharmaceutically acceptable salt, hydrate or ester thereof.

Claims:

1. Microparticles comprising cysteamine, cystamine or a pharmaceutically acceptable salt, hydrate or ester thereof, and a stabilizing agent wherein the stabilizing agent is selected from the group consisting of: monosaccharides, disaccharides, trisaccharides, oligosaccharides and corresponding sugar alcohols, and polysaccharides, wherein the microparticles have a particle size of 1 to 8 microns.

2. Microparticles as claimed in any one preceding claim wherein the particles have a particle size of about 4 to 8 microns or 2 to 4 microns or 1 to 4 microns.

3. Microparticles as claimed in any one preceding claim, wherein the pharmaceutically acceptable salt is cysteamine bitartrate.

4. The microparticles as claimed in any one preceding claim wherein the stabilizing agent is trehalose, or a sugar alcohol such as mannitol.

5. The microparticles as claimed in any preceding claim which comprises up to 20%w/w cysteamine, cystamine or a pharmaceutically acceptable salt, hydrate or ester thereof.

6. The microparticles as claimed in claim 5 which comprises between about 5 and 10% w/w cysteamine, cystamine or a pharmaceutically acceptable salt, hydrate or ester thereof.

7. The microparticles as claimed in any preceding claim which comprises up to 85% stabilising agent.

8. The microparticles as claimed in any preceding claim which comprises between 80 and 95% w/w stabilizing agent.

9. The microparticles as claimed in any preceding claim which further comprises leucine.

10. The microparticles as claimed in claim 9 which comprises between 1 and 10% leucine.

11. Use of microparticles as claimed in any one of claims 1 to 10, in the manufacture of a medicament for treating or preventing a lung disease.

12. The use of claim 11, wherein the lung disease is a respiratory disease.

13. The use of claim 11, wherein the lung disease is cystic fibrosis, chronic obstructive pulmonary disease, chronic bronchitis, bronchiectasis, emphysema, chronic obstructive airways disease, chronic cough, common cold, influenza, hantavirus, pneumonia or pleurisy.

14. A therapeutic composition comprising microparticles as claimed in any one of claims 1 to 10, and at least one additional pharmaceutical agent.

15. The therapeutic composition as claimed in claim 14 wherein the additional pharmaceutical agent is an antibacterial agent; optionally wherein the additional pharmaceutical agent is selected from the group consisting of antibiotics, mucolytic agents, vasodilators such as bronchodilators, antihypertensive agents, cardiovascular drugs and calcium channel blockers.

16. An inhalation device comprising microparticles as claimed in any one of claims 1 to 10, or a composition as claimed in any one of claims 14 to 15.