CLAIMS

1. A composition comprising at least one RNA molecule, wherein the at least one RNA molecule encodes at least one amino acid sequence comprising:

- at least one cytokine, or at least one fragment or epitope thereof, preferably wherein the at least one cytokine is interleukin-4 (IL-4) and/or interleukin-13 (IL-13),
- at least one T cell epitope, and
- optionally at least one spacer.

2. The composition according to claim **1**, wherein the at least one cytokine is IL-4.

3. The composition according to claim **1** or claim **2**, wherein the IL-4 fragment is selected from the group consisting of SEQ ID NOs: 7-10, 13-16, 94-97 and 109-112.

4. The composition according to any one of claims **1** to **3**, wherein the at least one cytokine is IL-13.

5. The composition according to any one of claims **1** to **4**, wherein the IL-13 fragment is selected from the group consisting of SEQ ID NOs: 25-28, 35-38, 119-122 and 129-132.

6. The composition according to any one of claims **1** to **5**, wherein the at least one RNA molecule encodes IL-4, or at least one fragment or epitope thereof, and IL-13, or at least one fragment or epitope thereof.

7. The composition according to any one of claims **1** to **6**, wherein the at least one T cell epitope is selected from the group consisting of CRM_{197}, combination of diphteria and tetanus epitopes (TpD), epitopes of tetanus toxin (TT), universal CD4 polyepitopes, variants and fragments thereof.

8. The composition according to any one of claims **1** to **7**, wherein the at least one spacer is selected from the group consisting of PMGLP (SEQ ID NO: 86), cathepsin

cleavage sites, amino acids doublets, GP, GPGPG (SEQ ID NO: 45), GGSGGGGSGG (SEQ ID NO: 98), $(GGGGS)_n$ ($(SEQ\ ID\ NO: 139)_n$) wherein n ranges from 1 to 4, LG, ASG, KG and RR.

9. The composition according to any one of claims **1** to **8**, wherein the at least one RNA molecule is encapsulated, preferably in a nanoparticle, in a liposome or in a virus-like particle.

10. A pharmaceutical composition comprising the composition according to any one of claims **1** to **9**, and at least one pharmaceutically acceptable excipient.

11. A vaccine composition comprising the composition according to any one of claims **1** to **9**, and optionally at least one adjuvant.

12. A medicament comprising at least one RNA molecule, wherein the at least one RNA molecule encodes at least one amino acid sequence comprising:

- at least one cytokine, or at least one fragment or epitope thereof, preferably wherein the at least one cytokine is interleukin-4 (IL-4) and/or interleukin-13 (IL-13),
- at least one T cell epitope, and
- optionally at least one spacer.

13. Use of a composition according to any one of claims **1** to **9**, a pharmaceutical composition according to claim **10**, or a vaccine composition according to claim **11**, in the manufacture of a medicament for treating an inflammatory disorder, preferably wherein said disorder is associated with aberrant IL-4 and/or IL-13 expression or activity.

14. The use according to claim **13,** wherein the inflammatory disorder is selected from the group consisting of asthma (either allergic or non-allergic), allergic conditions (such as, for example, food allergies, venom allergy, allergy to animals, drug allergy, anaphylaxis, hyper IgE syndrome, allergic rhinitis, allergic conjunctivitis and allergic enterogastritis), atopic disorders (such as, for example, atopic dermatitis, urticaria (including chronic idiopathic urticaria and chronic spontaneous

urticaria), eczema), bullous pemphigoid, respiratory disorders (such as allergic and nonallergic asthma, chronic obstructive pulmonary disease (COPD)), nasal polyposis and other conditions involving airway inflammation (such as, for example, eosinophilia, fibrosis and excess mucus production including cystic fibrosis and pulmonary fibrosis, systemic sclerosis (SSc)); inflammatory and/or autoimmune disorders or conditions, gastrointestinal disorders or conditions (such as, for example, inflammatory bowel diseases (IBD) and eosinophilic esophagitis (EE), and eosinophilic-mediated gastrointestinal disease, ulcerative colitis and Crohn's disease); systemic lupus erythematosus, liver disorders or conditions (such as, for example, cirrhosis, and hepatocellular carcinoma), scleroderma; fibrotic diseases or disorders (such as, for example, fibrosis of the liver (such as, for example, fibrosis caused by a hepatitis B and/or C virus)), scleroderma; solid tumors or cancers such as leukemia (such as, for example, B cell chronic lymphocytic leukaemia), glioblastoma, lymphoma (such as, for example, Hodgkin's lymphoma) and mastocytosis.

15. The use according to claim **13** or claim **14**, wherein the inflammatory disorder is selected from the group consisting of asthma (*e.g.,* allergic asthma), atopic dermatitis, chronic obstructive pulmonary disease (COPD), pulmonary fibrosis, food allergy, nasal polyposis and eosinophilic esophagitis, preferably wherein said inflammatory disorder is allergy, asthma, or atopic dermatitis.