

What is claimed is:

1. An antibody that is capable of binding to interleukin 4 (IL-4) receptor (IL-4R), wherein the antibody comprises a light chain variable region (VL) comprising a combination of CDR1, CDR2, and CDR3 as follows:

CDR1 as set forth in SEQ ID NO: 2, CDR2 as set forth in SEQ ID NO: 3 and CDR3 as set forth in SEQ ID NO: 8; and

the antibody comprises a heavy chain variable region (VH) comprising a combination of CDR1, CDR2, and CDR3 as follows:

CDR1 as set forth in SEQ ID NO: 14, CDR2 as set forth in SEQ ID NO: 18 and CDR3 as set forth in SEQ ID NO: 19.

2. The antibody according to claim 1, wherein the light chain variable region of the antibody comprises the amino acid sequence shown in SEQ ID NO: 55, and the heavy chain variable region of the antibody comprises the amino acid sequence shown in SEQ ID NO: 91.

3. The antibody according to claim 1 or 2, wherein the antibody is capable of binding to IL-4R α .

4. The antibody according to claim 3, wherein the antibody is capable of binding to mammal IL-4R α .

5. The antibody according to claim 3, wherein the antibody is capable of binding to human IL-4R α .

6. The antibody according to claim 3, wherein the antibody is capable of binding to human soluble IL-4R α .

7. The antibody according to claim 3, wherein the antibody is capable of binding to IL-4R α with an affinity of less than 100 nM, less than 10 nM, less than 1 nM, less than 0.5 nM, or even less than 0.1 nM.

8. The antibody according to claim 1 or 2, wherein the antibody is a monoclonal antibody, fully or partially humanized antibody or chimeric antibody.

9. The antibody according to claim 8, wherein the antibody is immunoglobulin.

10. The antibody according to claim 9, wherein the antibody is an IgA, IgD, IgE, IgG or IgM subtype.

11. The antibody according to claim 9, wherein the antibody is an IgG1, IgG2, IgG3 or IgG4 subtype.

12. A fusion protein or conjugate, wherein the fusion protein or conjugate comprises the antibody according to any one of claims 1 to 11.

13. A nucleic acid sequence, wherein the nucleic acid sequence encodes the heavy chain variable region and/or light chain variable region of the antibody according to any one of claims 1 to 11.

14. The nucleic acid sequence according to claim 13, wherein the nucleic acid sequence encodes the heavy chain and/or light chain of the antibody according to any one of claims 1 to 11.

15. A vector comprising the nucleic acid sequence according to claim 13 or 14.

16. A host cell transformed or transfected with the nucleic acid sequence according to claim 13 or 14 or the vector according to claim 15.

17. A method for producing the antibody according to any one of claims 1 to 11, wherein the method includes: obtaining the heavy chain variable region and the light chain variable region of the antibody, or the heavy chain and the light chain of the antibody from the nucleic acid sequence according to claim 13 or 14, and assembling them into the antibody with any other domain of the antibody; or

the method includes: culturing the host cell according to claim 16 under conditions that the host cell is allowed to express the heavy chain variable region and the light chain variable region of the antibody or the heavy chain and the light chain of the antibody for assembly into the antibody.

18. The method according to claim 17, wherein the method further includes recovering the produced antibody.

19. A pharmaceutical composition comprising the antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, and/or the antibody produced by the method according to claim 17 or 18.

20. The pharmaceutical composition according to claim 19, wherein the pharmaceutical composition is a pharmaceutical preparation.

21. The pharmaceutical composition according to claim 20, wherein the pharmaceutical preparation is an injection.

22. The pharmaceutical composition according to any one of claims 19 to 21, wherein the pharmaceutical composition or pharmaceutical preparation further comprises a pharmaceutically acceptable carrier or excipient.

23. The pharmaceutical composition according to any one of claims 19 to 21, wherein the pharmaceutical composition or pharmaceutical preparation further comprises at least one of the following medicaments: antiasthmatics such as albuterol etc., antihistamines such as loratadine etc., Immunosuppressive agents such as tacrolimus and pimecrolimus etc., M receptor blockers such as ipratropium bromide etc., leukotriene receptor blockers such as montelukast etc., phosphodiesterase inhibitors such as theophylline etc., non-steroidal anti-inflammatory drugs such as 5-aminosalicylic acid etc., hormones such as beclomethasone and budesonide etc.

24. The antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, and/or the antibody produced by the method according to claim 17 or 18 for use in prevention, treatment or amelioration of inflammation or allergic disease in a subject.

25. The antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, and/or the antibody produced by the method according to claim 17 or 18 for use according to claim 24, wherein the subject is a mammal.

26. The antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, and/or the antibody produced by the method according to claim 17 or 18 for use according to claim 24 or 25, wherein the subject is an human.

27. The antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, and/or the antibody produced by the method according to claim 17 or 18 for use according to claim 24 or 25, wherein the inflammation or allergic disease includes autoimmune disease, such as allergic dermatitis, asthma, eosinophilic esophagitis, eczema, allergic rhinitis, nasal polyp, and rheumatoid arthritis.

28. Use of the antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, and/or the antibody produced by the method according to claim 17 or 18 in the manufacture of a medicament for the prevention, treatment or amelioration of inflammation or allergic disease in a subject.

29. Use according to claim 28, wherein the subject is a mammal.

30. Use according to claim 28 or 29, wherein the subject is an human.

31. Use according to claim 28 or 29, wherein the inflammation or allergic disease includes autoimmune disease, such as allergic dermatitis, asthma, eosinophilic esophagitis, eczema, allergic rhinitis, nasal polyp, and rheumatoid arthritis.

32. A kit comprising the antibody according to any one of claims 1 to 11, the fusion protein or conjugate according to claim 12, the nucleic acid sequence according to claim 13 or 14, the vector according to claim 15, the host cell according to claim 16 and/or the antibodies produced by the method according to claim 17 or 18.