

CLAIMS

1. An isolated antigen binding protein which binds to human IL-5 comprising a heavy chain variable region having the CDRH1 amino acid sequence shown in SEQ ID NO: 5, the CDRH2 amino acid sequence shown in SEQ ID NO: 6, and the CDRH3 amino acid sequence shown in SEQ ID NO: 7; and a light chain variable region having the CDRL1 amino acid sequence shown in SEQ ID NO: 8, the CDRL2 amino acid sequence shown in SEQ ID NO: 9, and the CDRL3 amino acid sequence shown in SEQ ID NO: 10.
2. The antigen binding protein of Claim 1 wherein the heavy chain variable region further comprises a heavy chain FR4 amino acid sequence as shown in SEQ ID NO: 21.
3. The antigen binding protein of Claim 2 comprising a heavy chain Fc domain having a tyrosine residue at position 252, a threonine residue at position 254 and a glutamic acid residue at position 256 and wherein an amino terminus of the heavy chain Fc domain is connected to a carboxy terminus of the heavy chain variable region.
4. An isolated antigen binding protein which binds to human IL-5 comprising a heavy chain variable region sequence having the amino acid sequence shown in SEQ ID NO: 3; and a light chain variable region sequence having the amino acid sequence shown in SEQ ID NO: 4.
5. The antigen binding protein of Claim 4 comprising a heavy chain Fc domain having a tyrosine residue at position 252, a threonine residue at position 254 and a glutamic acid residue at position 256 and wherein an amino terminus of the heavy chain Fc domain is connected to a carboxy terminus of the heavy chain variable region.
6. An isolated antibody which binds to human IL-5 comprising a heavy chain and a light chain, wherein
 - a) the heavy chain comprises a heavy chain variable region having the CDRH1 amino acid sequence shown in SEQ ID NO: 5, the CDRH2 amino acid sequence shown in SEQ ID NO: 6, and the CDRH3 amino acid sequence shown in SEQ ID NO: 7; and b) the light chain comprises a light chain variable region having the CDRL1 amino acid sequence shown in SEQ ID NO: 8, the CDRL2 amino acid sequence shown in SEQ ID NO: 9, and the CDRL3 amino acid sequence shown in SEQ ID NO: 10.
7. The antibody of Claim 6 wherein the heavy chain variable region further comprises a heavy chain FR4 amino acid sequence as shown in SEQ ID NO: 21.
8. The antibody of Claim 7 wherein the heavy chain comprises a heavy chain Fc domain having a tyrosine residue at position 252, a threonine residue at position 254 and a glutamic acid residue at position 256.
9. An isolated antibody which binds to human IL-5 comprising a heavy chain and a light chain, wherein
 - a) the heavy chain comprises a heavy chain variable region sequence having the amino acid sequence shown in SEQ ID NO: 3; and
 - b) the light chain comprises a light chain variable region sequence having the amino acid sequence shown in SEQ ID NO: 4.
10. The antibody of Claim 9 wherein the heavy chain comprises a heavy chain Fc domain having a tyrosine residue at position 252, a threonine residue at position 254 and a glutamic acid residue at position 256.

11. An isolated antibody which binds to human IL-5 comprising a heavy chain having the amino acid sequence shown in SEQ ID NO: 1 and a light chain having the amino acid sequence shown in SEQ ID NO: 2.
12. A vector comprising the nucleic acid sequences shown in SEQ ID NO: 17 and SEQ ID NO: 18.
13. A pharmaceutical composition comprising an antigen binding protein or an antibody according to any one of claims 1-11 in combination with a pharmaceutically acceptable carrier.
14. A therapeutically effective amount of a protein, antibody according to any one of claims 1-11, or pharmaceutical composition according to 13, for use in the treatment of a disease selected from the group consisting of asthma, mild asthma, moderate asthma, severe asthma, mild eosinophilic asthma, moderate eosinophilic asthma, severe eosinophilic asthma, uncontrolled eosinophilic asthma, eosinophilic asthma, sub-eosinophilic asthma, chronic obstructive pulmonary disease, eosinophilic granulomatosis with polyangiitis, hypereosinophilic syndrome, nasal polyposis, bullous pemphigoid, eosinophilic esophagitis, atopic dermatitis, moderate atopic dermatitis and severe atopic dermatitis.
15. Use of a protein, antibody according to any one of claims 1-11, or pharmaceutical composition according to 13, in the manufacture of a medicament for the treatment of a disease selected from the group consisting of asthma, mild asthma, moderate asthma, severe asthma, mild eosinophilic asthma, moderate eosinophilic asthma, severe eosinophilic asthma, uncontrolled eosinophilic asthma, eosinophilic asthma, sub-eosinophilic asthma, chronic obstructive pulmonary disease, eosinophilic granulomatosis with polyangiitis, hypereosinophilic syndrome, nasal polyposis, bullous pemphigoid, eosinophilic esophagitis, atopic dermatitis, moderate atopic dermatitis and severe atopic dermatitis.
16. The use of claim 15 wherein the medicament formed from the pharmaceutical composition of claim 13, is to be administered once every 3 months or once every 6 months.