Claims

1. ~~The u~~Use of an ~~monoclonal, chimeric, humanized or human antibody that binds~~ anti-Interleukin-5 receptor (IL-5R) antibody in the manufacture of a medicament for reducing the numbers of peripheral blood basophils ~~eosinophils~~ in ~~a human subject~~ an asthmatic subject,

wherein said antibody is to be parenterally administered to said subject between 0.01 to 0.25 mg/kg,

wherein said antibody comprises the amino acid sequence of SEQ ID NO: 1 and SEQ ID NO:3; and an immunoglobulin Fc region comprising no fucose, and

~~wherein said antibody is parenterally administered to said subject between about 0.001 to about 100 mg/kg and~~ wherein said antibody is to be administered to reduce the number of peripheral blood basophils from the asthmatic subject's circulation by 5 to 70 basophils/mm^3 by 24 hours post-administration~~comprises an immunoglobulin Fc region comprising:~~

~~a) reduced levels of fucose;~~

~~b) no fucose; or~~

~~c) amino acid substitution comprising the inclusion of the following amino acid sequences in the Fc region: 332E, 239D and 330L, as numbered by the EU index as set forth in Kabat~~.

~~2. The use of claim 2, wherein said antibody specifically binds to the IL-5R α chain.~~

~~3. The use of claim 1 or 2, wherein the reduction of eosinophils takes place within the first 48 hours after administration.~~

2~~4~~. The use of ~~any one of~~ claim~~s~~ 1~~ to 3~~, wherein the reduction of basophils ~~eosinophils~~ is reversible.

3~~5~~. The use of ~~any one of~~ claim~~s~~ 1 or 2~~ to 4~~, wherein the numbers of basophils ~~eosinophils~~ are reduced to a level that is less than 9 basophils~~50 eosinophils~~/mm^3.

46. The use of any one of claims 1 to 35, wherein there is a post-administration reduction in absolute basophil ~~eosinophil~~ count of at least 5 ~~about 25~~, at least 10 ~~about 50~~, at least 15 ~~about 75~~, at least 20 ~~about 100~~, at least 25 ~~about 125~~, at least 30 ~~about 150~~, at least 35 ~~about 175~~, at least 40 ~~about 200~~, at least 45 ~~about 225~~, at least 50 ~~about 250~~, at least 55 ~~about 275~~, at least 60 ~~about 300~~, at least 65 ~~about 325~~, ~~at least about 350, at least about 375, at least about 400, at least about 425, at least about 450, at least about 475~~ or at least 70 ~~about 500~~ basophils~~eosinophils~~/mm^3.

~~7. The use of any one of claims 1 to 6, wherein there is a post-administration reduction in absolute eosinophil count of between and including about 50 to about 500 eosinophils/mm^3.~~

~~8. The use of any one of claims 1 to 7, wherein the absolute eosinophil count post-administration is less than about 100, less than about 75, less than about 50, or less than about 25 eosinophils/mm^3.~~

59. The use of any one of claims 1 to 48, wherein said subject's pre-administration absolute basophil ~~eosinophil~~ count is between ~~about~~ 50 and ~~about~~ 500 basophils~~eosinophils~~/mm^3.

610. The use of any one of claims 1 to 59, wherein said subject's pre-administration absolute basophil ~~eosinophil~~ count is at least 5, at least 10, at least 15, at least 20, at least ~~about~~ 25, at least 30, at least ~~about~~ 50, at least 60, at least 70, at least ~~about 75, about~~ 100, ~~about 125, about 150, about 175, about~~ at least 200, ~~about 225, about 250, about 275, about~~ at least 300, ~~about 325, about 350, about 375, about~~ at least 400, ~~about 450, about 475~~ or at least ~~about~~ 500 basophils~~eosinophils~~/mm^3.

~~11. The use of any of claims 1-10, wherein said subject's post-administration absolute basophil count is reduced by at least about 5, at least about 10, at least about 15, at least about 20, at least about 25, at least about 30, at least about 35, at least about 40, at least~~

about 45, at least about 50, at least about 55, at least about 60, at least about 65, at least about 70 basophils/ mm^3.

12. The use of any of claims 1-11, wherein said reduction in eosinophils leads to a reduction in asthma symptoms.

13. The use of any of claims 1-11, wherein said reduction in eosinophils leads to a reduction in COPD symptoms.

14. The use of any of claims 1-13, with the proviso that the IL-5R binding antibody is not MEDI-563.

15. An isolated anti-IL-5R antibody that binds to the same epitope as MEDI-563.

16. The anti-IL-5R antibody of claim 15, wherein the antibody binds to an epitope comprising residues 52-67 of SEQ ID NO: 5, provided that the antibody is not MEDI-563.

17. The anti-IL-5R antibody of claim 15, wherein the antibody binds to a first antigen comprising residues 40-67 of SEQ ID NO: 5 but does not bind to a second antigen comprising a variant of residues 40-67 of SEQ ID NO: 5 wherein the variant comprises the I61K substitution, provided that the antibody is not MEDI-563.

18. The anti-IL-5R antibody of claim 15, wherein the antibody binds to human IL-5R alpha polypeptide comprising the amino acid sequence of SEQ ID NO:5 but does not bind to a mutant human IL-5R alpha polypeptide comprising the I61K substitution, provided that the antibody is not MEDI-563.

19. The anti-IL-5R antibody of any one of claims 15-18, wherein the antibody is a human, humanized or chimeric antibody.

~~20. An isolated epitope of IL-5R alpha comprising amino acid residues 52-67 of SEQ ID NO: 5.~~