CLAIMS

1. Use of a first antibody or antigen-binding fragment thereof and optionally a second antibody or antigen-binding fragment thereof for the preparation of a medicament for treating asthma in a subject in need thereof, the use comprising administering to the subject:

an initial dose of about 300 mg of the first antibody or antigen-binding fragment thereof; and

one or more maintenance doses of about 300 mg of the first antibody or antigen-binding fragment thereof, and optionally administering to the subject:

an initial dose of about 300 mg of the second antibody or antigen-binding fragment thereof; and

one or more maintenance doses of about 300 mg of the second antibody or antigen-binding fragment thereof,

wherein the first antibody or antigen-binding fragment thereof specifically binds to interleukin-33 (IL-33) and comprises three heavy chain complementary determining region (HCDR) sequences comprising SEQ ID NOs: 4, 6 and 8, and three light chain complementary determining region (LCDR) sequences comprising SEQ ID NOs: 12, 14 and 16, and

wherein the second antibody or antigen-binding fragment thereof specifically binds to interleukin-4 receptor (IL-4R) and comprises three heavy chain complementary determining region (HCDR) sequences comprising SEQ ID NOs: 21, 22 and 23, and three light chain complementary determining region (LCDR) sequences comprising SEQ ID NOs: 24, 25 and 26.

2. The use of claim 1, wherein:

(a) loss of asthma control (LOAC) is reduced in the subject; or

(b) one or more asthma-associated parameter(s) are improved in the subject,

optionally selected from the group consisting of forced expiratory volume in 1 second (FEV1), peak expiratory flow (PEF), forced vital capacity (FVC), forced expiratory flow (FEF) 25%-75%, frequency or dosage of a long-acting β2 adrenergic agonist (LABA), frequency or dosage of an inhaled corticosteroid, and frequency or dosage of a systemic steroid,

optionally wherein pre-bronchodilator FEV1 is improved and/or the frequency or the dosage of the long-acting β2 adrenergic agonist (LABA) is reduced, the frequency or the

dosage of the inhaled corticosteroid is reduced, or the frequency or the dosage of the systemic steroid is reduced; or

(c) one or both of asthma control questionnaire 5-question version (ACQ-5) score and asthma quality of life questionnaire with standardized activities (AQLQ) score are improved, optionally wherein the emotional function score of the AQLQ is improved; or

(d) the asthma is moderate-to-severe asthma that is not well-controlled on a background therapy, optionally wherein the background therapy comprises an inhaled corticosteroid (ICS) and a long-acting β2 adrenergic agonist (LABA), and optionally moderate-to-high dose ICS/LABA; or

(e) the subject has a blood eosinophil count of: greater than or equal to about 300 cells per µl; of about 150 to 299 cells/µL; or of about <150 cells/µL; or

(f) blood eosinophil levels are reduced; or

(g) the subject has high blood periostin levels or low blood periostin levels, optionally wherein the subject has high blood periostin levels of about ≥74.4 ng/mL.

3. The use of claim 1 or 2, wherein the first antibody or antigen-binding fragment thereof comprises a heavy chain variable region (HCVR) comprising the amino acid sequence of SEQ ID NO: 2 and a light chain variable region (LCVR) comprising the amino acid sequence of SEQ ID NO: 10, optionally wherein the antibody comprises SAR440340, and

wherein the second antibody or antigen-binding fragment thereof comprises a heavy chain variable region (HCVR) comprising the amino acid sequence of SEQ ID NO: 27 and a light chain variable region (LCVR) comprising the amino acid sequence of SEQ ID NO: 28, optionally wherein the second antibody comprises dupilumab.

4. The use of any one of claims 1-3, wherein the first antibody or antigen-binding fragment thereof and the second antibody or antigen-binding fragment thereof are each administered:

(a) every other week; or

(b) subcutaneously, optionally using an autoinjector, a needle and syringe, or a pen delivery device; or

(c) as two injections.

5. The use of any one of claims 1-4, wherein the second antibody or antigen-binding fragment thereof is administered to the subject before, after, or concurrent with the first antibody or antigen-binding fragment thereof.

6. The use of any one of claims 1-5, wherein the first antibody or antigen-binding fragment thereof is administered as two injections and the second antibody or antigen-binding fragment thereof is administered as one injection.

7. The use of any one of claims 1-6, wherein at least one additional therapeutic agent is administered to the subject.

8. The use of claim 7, wherein the at least one additional therapeutic agent comprises one or both of an ICS and a LABA.

9. The use of claim 8, wherein the ICS is fluticasone or budesonide.

10. The use of claim 8, wherein the LABA is salmeterol or formoterol.

11. The use of claim 8, wherein the ICS and LABA are both administered, the ICS is fluticasone and the LABA is salmeterol.

12. Use of SAR440340 and optionally dupilumab for the preparation of a medicament for treating moderate-to-severe asthma in a subject in need thereof, the use comprising administering to the subject:

an initial dose of about 300 mg of SAR440340;

one or more maintenance doses of about 300 mg of SAR440340; and optionally:

an initial dose of about 300 mg of dupilumab; and

one or more maintenance doses of about 300 mg of dupilumab;

wherein SAR440340 and dupilumab are administered subcutaneously every other week.

13. Use of an antibody or antigen-binding fragment thereof that specifically binds to interleukin-33 (IL-33) for the preparation of a medicament for reducing an asthma patient's dependence on one or both of an inhaled corticosteroid (ICS) and a long-acting β2 adrenergic agonist (LABA) for the treatment of one or more asthma exacerbations, the use comprising:

administering to a subject who has moderate-to-severe asthma that is partially controlled or uncontrolled with a background asthma therapy comprising an ICS, a LABA, or a combination thereof, a defined dose of the antibody or antigen-binding fragment thereof, at a defined frequency for an initial treatment period while maintaining the subject's background asthma therapy for the initial treatment period; and

gradually reducing or eliminating the dosage of the ICS, the LABA or the combination thereof administered to the subject over the course of a subsequent treatment period while continuing to administer the antibody or antigen-binding fragment thereof to the subject at the defined frequency and dose used during the initial treatment period, and

wherein the antibody or antigen-binding fragment thereof comprises three heavy chain complementary determining region (HCDR) sequences comprising SEQ ID NOs: 4, 6 and 8, and three light chain complementary determining region (LCDR) sequences comprising SEQ ID NOs: 12, 14 and 16.

14. The use of claim 13,

(a) wherein the ICS is fluticasone, budesonide, or mometasone, and the LABA is salmeterol or formoterol; or

(b) comprising an ICS/LABA combination selected from the group consisting of fluticasone/salmeterol, budesonide/formoterol, and mometasone/formoterol; or

(c) wherein the dosage of one or both of the LABA and the ICS are eliminated at the end of the initial treatment period; or

(d) wherein the dosage of one or both of the LABA and the ICS are gradually reduced or eliminated over the course of 2 to 8 weeks.

15. The use of claim 13 or 14, further comprising administering to the subject a second antibody or antigen-binding fragment thereof that specifically binds to interleukin-4 receptor (IL-4R) and comprises three HCDR sequences comprising SEQ ID NOs: 21, 22 and 23, and three LCDR sequences comprising SEQ ID NOs: 24, 25 and 26.

16. Use of a first antibody or antigen-binding fragment thereof and optionally a second antibody or antigen-binding fragment thereof for the preparation of a medicament for treating asthma in a subject in need thereof, the use comprising administering to the subject:

a dose of about 300 mg of the first antibody or antigen-binding fragment thereof; and optionally:

a dose of about 300 mg of the second antibody or antigen-binding fragment thereof,

wherein the first antibody or antigen-binding fragment thereof specifically binds to interleukin-33 (IL-33) and comprises three heavy chain complementary determining region (HCDR) sequences comprising SEQ ID NOs: 4, 6 and 8, and three light chain complementary determining region (LCDR) sequences comprising SEQ ID NOs: 12, 14 and 16, and

wherein the second antibody or antigen-binding fragment thereof specifically binds to interleukin-4 receptor (IL-4R) and comprises three heavy chain complementary determining region (HCDR) sequences comprising SEQ ID NOs: 21, 22 and 23, and three light chain complementary determining region (LCDR) sequences comprising SEQ ID NOs: 24, 25 and 26.

17. The use of claim 16, wherein:

(a) loss of asthma control (LOAC) is reduced in the subject; or

(b) one or more asthma-associated parameter(s) are improved in the subject,

optionally selected from the group consisting of forced expiratory volume in 1 second (FEV1), peak expiratory flow (PEF), forced vital capacity (FVC), forced expiratory flow (FEF) 25%-75%, frequency or dosage of a long-acting β2 adrenergic agonist (LABA), frequency or dosage of an inhaled corticosteroid, and frequency or dosage of a systemic steroid,

optionally wherein pre-bronchodilator FEV1 is improved and/or the frequency or the dosage of the long-acting β2 adrenergic agonist (LABA) is reduced, the frequency or the

dosage of the inhaled corticosteroid is reduced, or the frequency or the dosage of the systemic steroid is reduced; or

(c) one or both of asthma control questionnaire 5-question version (ACQ-5) score and asthma quality of life questionnaire with standardized activities (AQLQ) score are improved, optionally wherein the emotional function score of the AQLQ is improved; or

(d) the asthma is moderate-to-severe asthma that is not well-controlled on a background therapy, optionally wherein the background therapy comprises an inhaled corticosteroid (ICS) and a long-acting β2 adrenergic agonist (LABA), and optionally moderate-to-high dose ICS/LABA; or

(e) the subject has a blood eosinophil count of: greater than or equal to about 300 cells per µl; of about 150 to 299 cells/µL; or of about <150 cells/µL; or

(f) blood eosinophil levels are reduced; or

(g) the subject has high blood periostin levels or low blood periostin levels, optionally wherein the subject has high blood periostin levels of about ≥74.4 ng/mL; or

(h) the asthma is moderate-to-severe asthma that is not well-controlled on a background therapy, optionally wherein the background therapy comprises an inhaled corticosteroid (ICS) and a long-acting β2 adrenergic agonist (LABA), and optionally wherein the background therapy comprises moderate-to-high dose ICS/LABA.

18. The use of claim 16 or 17, wherein the first antibody or antigen-binding fragment thereof comprises a heavy chain variable region (HCVR) comprising the amino acid sequence of SEQ ID NO: 2 and a light chain variable region (LCVR) comprising the amino acid sequence of SEQ ID NO: 10, and wherein the second antibody or antigen-binding fragment thereof comprises a heavy chain variable region (HCVR) comprising the amino acid sequence of SEQ ID NO: 27 and a light chain variable region (LCVR) comprising the amino acid sequence of SEQ ID NO: 28.

19. The use of claim 18, wherein the first antibody comprises SAR440340 and the second antibody comprises dupilumab.

20. The use of any one of claims 16-19, wherein the first and second antibody or antigen-binding fragment thereof are administered subcutaneously using an autoinjector, a needle and syringe, or a pen delivery device.