CLAIMS

1. An antibody, or antigen binding fragment thereof, that specifically binds to human IL-33, comprising one from each of (i)-(vi)

(i) a light chain complementarity determining region 1 (CDR-L1) selected from the group consisting of SEQ ID NO:20, 37, 190, 193, 257, 258, 259, and 260 according to Kabat numbering,

(ii) a CDR-L2 selected from the group consisting of SEQ ID NO:21, 196, 199, 261, 262, 263, and 264 according to Kabat numbering,

(iii) a CDR-L3 selected from the group consisting of SEQ ID NO:22, 38, 208, 265, 26, 267, and 268, according to Kabat numbering,

(iv) a heavy chain complementarity determining region 1 (CDR-H1) selected from the group consisting of SEQ ID NO:16, 33, 269, 270, and 271 according to Kabat numbering,

(v) a CDR-H2 selected from the group consisting of SEQ ID NO:17, 34, 168, 171, 174, 180, 202, 205, 211, 214, 217, 220, 223, 226, 229, 232, 235, 272, 273, 274, and 275 according to Kabat numbering, and

(vi) a CDR-H3 selected from the group consisting of SEQ ID NO:18, 35, 114, 119, 122, 127, 130, 133, 136, 139, 142, 145, 148, 153, 156, 159, 177, 187, 276, 277, 278, and 279 according to Kabat numbering.

2. An antibody, or antigen binding fragment thereof comprising the CDR-H1, CDR-H2, and CDR-H3 sequences of SEQ ID NO:225, and the CDR-L1, CDR-L2, and CDR-L3 sequences of SEQ ID NO:207.

3. The antibody, or antigen binding fragment thereof, as claimed in claim 2, comprising

(i) a CDR-L1 comprising SEQ ID NO:20 according to Kabat numbering,

(ii) a CDR-L2 comprising SEQ ID NO:21 according to Kabat numbering,

(iii) a CDR-L3 comprising SEQ ID NO:208 according to Kabat numbering,

(iv) a CDR-H1 comprising SEQ ID NO:16 according to Kabat numbering,

(v) a CDR-H2 comprising SEQ ID NO:226 according to Kabat numbering,

(vi) a CDR-H3 comprising SEQ ID NO: 18 according to Kabat numbering.

4. The antibody, or antigen binding fragment thereof, of claim 2, comprising a VL framework sequence and a VH framework sequence, and wherein one or both of the VL framework sequence or VH framework sequence is at least 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, or 99% identical to the human germline sequence from which it was derived, and wherein the human germline VL sequence from which the VL framework sequence is derived is selected from the group consisting of DPK9, DPK12, DPK18, DPK24, HK102 _V1, DPK1, DPK8, DPK3, DPK21, Vg_38K, DPK22, DPK15, DPL16, DPL8, V1-22, Vλ consensus, Vλ1 consensus, Vλ3 consensus, Vκ1 consensus, Vκ1 consensus, Vκ2 consensus, and Vκ3, and wherein the human germline VH sequence from which the VH framework sequence is derived is selected from the group consisting of DP54, DP47, DP50, DP31, DP46, DP71, DP75, DP10, DP7, DP49, DP51, DP38, DP79, DP78, DP73, VH3, VH5, VH1, and VH4.

5. The antibody, or antigen binding fragment thereof of claim 2, comprising a VH comprising an amino acid sequence at least 90% identical to SEQ ID NO:225, and a VL comprising an amino acid sequence at least 90% identical to SEQ ID NO:207.

6. The antibody, or antigen binding fragment thereof, of claim 2, comprising an Fc domain, and wherein the Fc domain is the Fc domain of an IgA.sub.1 IgA_2, IgD, IgE, IgM, IgG_1, IgG_2, IgG_3, or IgG_4.

7. The antibody, or antigen binding fragment thereof, of claim 2, comprising a heavy chain comprising an amino acid sequence at least 90% identical to SEQ ID NO:244, and a light chain comprising an amino acid sequence at least 90% identical to SEQ ID NO:209.

8. The antibody, or antigen binding fragment thereof, of claim 2, comprising a heavy chain comprising the amino acid sequence of SEQ ID NO: 244, and a light chain comprising the amino acid sequence of SEQ ID NO: 209.

9. The antibody, or antigen binding fragment thereof, of claim 2, comprising the VH amino acid sequence encoded by the insert of the plasmid deposited at the ATCC and having ATCC Accession No. PTA-122724, and the VL amino acid sequence encoded by the insert of the plasmid deposited at the ATCC and having ATCC Accession No. PTA-122725.

10. The antibody, or antigen binding fragment thereof, of claim 2, wherein the antibody, or antigen binding fragment thereof, binds human IL-33 with a K_D about or less than a value selected from the group consisting of about 10 nM, 5 nM, 2 nM, 1 nM, 900 pM, 800 pM, 700 pM, 600 pM, 500 pM, 400 pM, 300 pM, 250 pM, 200 pM, 150 pM, 100 pM, 50 pM, 40 pM, 30 pM, 25 pM, 20 pM, 15 pM, 10 pM, 5 pM, and 1 pM, and optionally, wherein the antibody, or antigen binding fragment thereof, binds cynomologus monkey IL-33 with a K.sub.D about or less than a value selected from the group consisting of about 10 nM, 5 nM, 2 nM, 1 nM, 900 pM, 800 pM, 700 pM, 600 pM, 500 pM, 400 pM, 300 pM, 250 pM, 200 pM, 150 pM, 100 pM, 50 pM, 40 pM, 30 pM, 25 pM, 20 pM, 15 pM, 13 pM, 10 pM, 5 pM, and 1 pM.

11. The antibody, or antigen binding fragment thereof, of claim 2, wherein the binding K_D of the antibody, or antigen binding fragment, to cynomologous IL-33 is within 10-fold of the binding K_D to human IL-33.

12. The antibody, or antigen binding fragment thereof, of claim 2, wherein the terminal half life in humans is at least about 31 days.

13. A pharmaceutical composition comprising the antibody, or antigen binding fragment thereof, of claim 2, and a pharmaceutically acceptable carrier or excipient.

14. The antibody, or antigen-binding fragment thereof, of claim 2, comprising a VH framework sequence derived from a human germline DP54 sequence.

15. The antibody, or antigen-binding fragment thereof, of claim 2, comprising a VL framework sequence derived from a human germline DPK9 sequence.

16. The antibody, or antigen-binding fragment thereof, of claim 2, wherein the ratio of binding K_D of the antibody or antigen binding fragment to human IL-33 compared with the binding to cynomologous IL-33 is between 5:1 and 1:5.

17. The antibody, or antigen-binding fragment thereof, of claim 2, wherein the K_D of the antibody, or antigen binding fragment thereof, binding to active IL-33 is at least 10, 100, $1x10^3$, $1x10^4$, $1x10^5$, $1x10^6$, $1x10^7$ times lesser than the K_D of the antibody, or antigen

binding fragment thereof, binding to an inactive form of IL-33.

18. The antibody, or antigen-binding fragment thereof, of claim 2, wherein the terminal half life in cynomologous monkeys is at least about 15 days.