

Claims

1. An antibody or antigen-binding fragment thereof that binds specifically to IL-1RAcP, wherein the antibody or antigen-binding fragment:
 - (a) comprises an HCDR1 region comprising the amino acid sequence of SEQ ID No. 4, an HCDR2 region comprising the amino acid sequence of SEQ ID No. 5, an HCDR3 region comprising the amino acid sequence of SEQ ID No. 6, an LCDR1 comprising the amino acid sequence of SEQ ID No. 1, an LCDR2 comprising the amino acid sequence of SEQ ID No. 2, and an LCDR3 comprising the amino acid sequence of SEQ ID No. 3;
 - (b) comprises an HCDR1 comprising the amino acid sequence of SEQ ID No. 12, an HCDR2 comprising the amino acid sequence of SEQ ID No. 13, an HCDR3 comprising the amino acid sequence of SEQ ID No. 14, an LCDR1 comprising the amino acid sequence of SEQ ID No. 9, an LCDR2 comprising the amino acid sequence of SEQ ID No. 10, and an LCDR3 comprising the amino acid sequence of SEQ ID No. 11; or
 - (c) is an antibody or antigen-binding fragment that cross-competes with the an antibody or antigen-binding fragment thereof of (a) or (b).
2. The antibody or antigen-binding fragment of claim 1, wherein the antibody or antibody fragment comprises:
 - (a) the HCDR1 region of SEQ ID No. 4, the HCDR2 region of SEQ ID No. 5 , the HCDR3 region of SEQ ID No. 6 , the LCDR1 region of SEQ ID No. 1 , the LCDR2 region of SEQ ID No. 2 and the LCDR3 region of SEQ ID No. 3 ; or
 - (b) the HCDR1 region of SEQ ID No. 12, the HCDR2 region of SEQ ID No. 13, the HCDR3 region of SEQ ID No. 14, the LCDR1 region of SEQ ID No. 9, the LCDR2 region of SEQ ID No. 10 and the LCDR3 region of SEQ ID No. 11.
3. The antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment binds specifically to human IL-1RAcP.
4. The antibody or antigen-binding fragment of claim 3, wherein the antibody or antigen-binding fragment binds specifically to human IL-1RAcP and Cynomolgus IL-1RAcP.

5. The antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment comprises at least one heavy chain variable domain (VH) comprising SEQ ID No. 7 or an amino acid sequence that is at least 90% identical to SEQ ID No. 7; and at least one light chain variable domain (VL) comprising SEQ ID No. 8, or an amino acid sequence that is at least 90% identical to SEQ ID No. 8.
6. The antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment comprises at least one heavy chain variable domain (VH) comprising SEQ ID No. 15 or an amino acid sequence that is at least 90% identical to SEQ ID No. 15; and at least one light chain variable domain (VL) comprising SEQ ID No. 16, or an amino acid sequence that is at least 90% identical to SEQ ID No. 16.
7. The antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment comprises:
- (a) at least one VH comprising of SEQ ID No. 7 and at least one VL comprising SEQ ID No. 8;
- 15 or
- (b) at least one VH comprising SEQ ID No. 15 and at least one VL comprising SEQ ID NO. 16.
8. An antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment is an isolated antibody or antigen-binding fragment.
9. An antibody or antibody fragment of claim 1, wherein the antibody or antigen-binding fragment is an engineered antibody or antigen-binding fragment.
- 20 10. Use of an IL-1RAcP antibody according to claim 1 in the manufacture of a medicament for the treatment of an IL1RAcP-associated disease or condition.
11. The use of claim 10, wherein the IL1RAcP-associated disease or condition is a dermatological condition.
- 25 12. The use of claim 10, wherein the IL1RAcP-associated disease or condition is a skin inflammatory disease.

13. The use of claim 10, wherein the IL1RAcP-associated disease or condition is hidradenitis suppurativa, palmoplantar pustulosis, pyoderma gangrenosum, pyogenic arthritis, pyoderma gangrenosum, acne (PAPA) syndrome, pyoderma gangrenosum, acne, suppurative hidradenitis (PASH) syndrome, pyogenic arthritis, acne, pyoderma gangrenosum, suppurative hidradenitis (PAPASH), systemic sclerosis, inflammatory nodulocystic acne, atopic dermatitis, Papulopustular Rosacea, Sweet's Syndrome, Chronic Spontaneous Urticaria, Bullous Pemphigoid, Dermatomyositis, Contact Dermatitis, Psoriasis, pustular palmoplantar psoriasis, Generalized Pustular Psoriasis, Juvenile Psoriasis, Vitiligo, Pemphigus Vulgaris, Netherton syndrome, neutrophilic hair diseases, Acne vulgaris, Neutrophilic Asthma and Chronic Obstructive Pulmonary Disease, graft versus host disease (GVHD), Psoriatic Arthritis, Rheumatoid Arthritis, SAPHO syndrome, Sjögrens syndrome, myocarditis, Ulcerative Colitis, Crohn's Disease, Asthma, Epidermolysis Bullosa, Cryopyrin-associated periodic syndromes (inflammasome driven), Muckle-Wells syndrome, Deficiency of IL-1-receptor antagonist (DIRA), Systemic Juvenile Idiopathic Arthritis, Hyper IgD syndrome, Bechet's disease, acute and chronic Gout, Schnitzler's syndrome, adult-onset Still's disease, Aggressive periodontitis cases, Liver diseases, Endometriosis, or steroid-sensitive nephrotic syndrome.
14. An isolated polynucleotide encoding the antibody or antigen-binding fragment of claim 1.
15. A host cell comprising the polynucleotide of claim 14.
16. A pharmaceutical composition comprising the antibody or antigen-binding fragment of claim 1 and a pharmaceutically acceptable carrier or excipient.