

CLAIMS

1. An antibody molecule capable of binding to complement component 5a receptor 1 (C5aR1), wherein the antibody molecule competes with a C5aR1 antibody molecule comprising:
 - an HCDR1 comprising an amino acid sequence of SEQ ID NO: 656, an HCDR2 comprising an amino acid sequence of SEQ ID NO: 776, and an HCDR3 comprising an amino acid sequence of SEQ ID NO: 896, an LCDR1 comprising an amino acid sequence of SEQ ID NO: 715, an LCDR2 comprising an amino acid sequence of SEQ ID NO: 835, and an LCDR3 comprising an amino acid sequence of SEQ ID NO: 955.
2. The antibody molecule of claim 1, wherein the antibody molecule binds to an epitope on Site I of C5aR1, wherein the epitope on Site I comprises amino acid residues of SEQ ID NO: 1449 or SEQ ID NO: 1452.
3. The antibody molecule of claim 1, comprising a VH and a VL,
 - wherein the VH comprises:
 - i. an HCDR1 comprising an amino acid sequence of SEQ ID NO: 656;
 - ii. an HCDR2 comprising an amino acid sequence of SEQ ID NO: 776; and
 - iii. an HCDR3 comprising an amino acid sequence of SEQ ID NO: 896; and
 - wherein the VL comprises:
 - i. an LCDR1 comprising an amino acid sequence of SEQ ID NO: 715,
 - ii. an LCDR2 comprising an amino acid sequence of SEQ ID NO: 835, and
 - iii. an LCDR3 comprising an amino acid sequence of SEQ ID NO: 955.
4. A pharmaceutical composition comprising the antibody molecule of claim 1, optionally further comprising a pharmaceutically acceptable carrier or excipient.
5. A combination comprising the antibody molecule of claim 1 and a second therapeutic agent.
6. A nucleic acid molecule comprising a nucleotide sequence encoding the antibody molecule of claim 1.
7. A host cell comprising the nucleic acid molecule of claim 6.

8. A method of producing an anti-C5aR1 antibody molecule, the method comprising culturing the host cell of claim 7 under conditions that allow production of an antibody molecule, thereby producing the antibody molecule.
9. Use of a composition comprising an antibody molecule of claim 1 in the preparation of a medicament for use in treating a disease or disorder, wherein the disease or disorder is a C5aR1-associated disorder such as autoimmune disorder, rheumatoid arthritis, kidney disorder, ANCA-vasculitis, and/or lupus.
10. Use of a composition comprising an antibody molecule of claim 1 in the manufacture of a medication for modulating (e.g., decreasing) a C5aR1 activity, comprising contacting a cell or a subject in need thereof an effective amount of the antibody wherein the medication is used for a C5aR1-associated disorder such as autoimmune disorder, rheumatoid arthritis, kidney disorder, ANCA-vasculitis, and/or lupus.