

METHODS AND COMPOSITIONS RELATING TO ADENOSINE RECEPTORS

CROSS-REFERENCE

[0001] This application claims the benefit of U.S. Patent Application No. 63/140,201, filed January 21, 2021, U.S. Patent Application No. 63/209,892, filed June 11, 2021, and U.S. Patent Application No. 63/244,976, filed September 16, 2021, the contents of each of which is entirely incorporated by reference herein.

BACKGROUND

[0002] G protein-coupled receptors (GPCRs) such as adenosine receptors are implicated in a wide variety of diseases. Raising antibodies to GPCRs has been difficult due to problems in obtaining suitable antigen because GPCRs are often expressed at low levels in cells and are very unstable when purified. Thus, there is a need for improved agents for therapeutic intervention which target adenosine receptors.

INCORPORATION BY REFERENCE

[0003] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

BRIEF SUMMARY

[0003a] Provided herein is an antibody or antibody fragment that binds to adenosine 2A receptor, comprising a heavy chain CDR1 comprising an amino acid sequence selected from SEQ ID NOs: 6-94, a heavy chain CDR2 comprising an amino acid sequence selected from SEQ ID NOs: 95-183, and a heavy chain CDR3 comprising an amino acid sequence selected from SEQ ID NOs: 184-272, a light chain CDR1 comprising an amino acid sequence selected from SEQ ID NOs: 273-361, a light chain CDR2 comprising an amino acid sequence selected from SEQ ID NOs: 362-450, and a light chain CDR3 comprising an amino acid sequence selected from SEQ ID NOs: 451-539.

[0003b] Provided herein is the use of the antibody or antibody fragment as described herein in the manufacture of a medicament for activating T cells.

[0003c] Provided herein is a nucleic acid that encodes the antibody or antibody fragment as described herein.

[0003d] Provided herein is an antibody or antibody fragment as described herein for use in therapy.

[0004] Provided herein are compositions and methods for activating T cells.

[0005] Provided herein are methods for activating T cells, comprising administering an antibody or antibody fragment comprising a sequence at least about 90% identical to a sequence set forth in SEQ ID NOs: 6-717. Further provided herein are methods for activating T cells, wherein the antibody or antibody fragment comprises an amino acid sequence at least about 95% identical to that set forth in any one of SEQ ID NOs: 35-44. Further provided herein are methods for activating T cells, wherein the antibody or antibody fragment comprises an amino acid sequence as set forth in any one of SEQ ID NOs: 35-44. Further provided herein are methods for activating T cells, wherein the antibody is a monoclonal antibody, a polyclonal antibody, a bi-specific antibody, a multispecific antibody, a grafted antibody, a human antibody, a humanized antibody, a synthetic antibody, a chimeric antibody, a camelized antibody, a single-chain Fvs (scFv), a single chain antibody, a Fab fragment, a F(ab')₂ fragment, a Fd fragment, a Fv fragment, a single-domain antibody, an isolated complementarity determining region (CDR), a diabody, a fragment comprised