

antigen binding fragment thereof, comprising:

a) a heavy chain variable region (VH) comprising complementary determining regions (CDRs) of CDR1, CDR2, and CDR3, wherein~~having~~ the amino acid sequences of CDR1 is set forth in SEQ ID NOs: 31-33, the amino acid sequence of CDR2 is set forth in SEQ ID NO: 32, and the amino acid sequence of CDR3 is set forth in SEQ ID NO: 33; and

b) a light chain variable region (VL) comprising CDRs of CDR1, CDR2, and CDR3, wherein~~having~~ the amino acid sequences of CDR1 is set forth in SEQ ID NOs: 34, the amino acid sequence of CDR2 is set forth in SEQ ID NO: 35, and the amino acid sequence of CDR3 is set forth in SEQ ID NO: 36-36.

In another example~~aspect~~, the present disclosure refers to a monoclonal antibody, or an antigen binding fragment thereof, comprising: a) a heavy chain variable region (VH) comprising complementary determining regions (CDRs) having the amino acid sequences set forth in SEQ ID NOs: 37-39; and b) a light chain variable region (VL) comprising CDRs having the amino acid sequences set forth in SEQ ID NOs: 40-42.

In another aspect, the present disclosure refers to an isolated nucleic acid molecule, comprising a nucleic acid encoding the heavy chain variable region and the light chain variable region of the monoclonal antibody or antigen binding fragment thereof as disclosed herein.

In another aspect, the present disclosure refers to a conjugate comprising the monoclonal antibody or antigen binding fragment thereof as disclosed herein and a conjugated portion comprising a detectable label.

In another aspect, the present disclosure refers to a reagent kit comprising the monoclonal antibody or antigen binding fragment thereof as disclosed herein.

In another aspect, the present disclosure refers to a pharmaceutical composition, comprising the monoclonal antibody or antigen binding fragment thereof as disclosed herein and at least one pharmaceutically acceptable carrier or excipient.

In yet another aspect, the present disclosure refers to a use of the monoclonal antibody or antigen binding fragment thereof as disclosed herein in the

CLAIMS

1. A monoclonal antibody, or an antigen binding fragment thereof, comprising:

5 a) a heavy chain variable region (VH) comprising complementary determining regions (CDRs) of CDR1, CDR2, and CDR3, wherein~~having~~ the amino acid sequences of CDR1 is set forth in SEQ ID NOs: 31-~~33~~, the amino acid sequence of CDR2 is set forth in SEQ ID NO: 32, and the amino acid sequence of CDR3 is set forth in SEQ ID NO: 33; and

10 b) a light chain variable region (VL) comprising CDRs of CDR1, CDR2, and CDR3, wherein~~having~~ the amino acid sequences of CDR1 is set forth in SEQ ID NOs: 34, the amino acid sequence of CDR2 is set forth in SEQ ID NO: 35, and the amino acid sequence of CDR3 is set forth in SEQ ID NO: 36-36.

~~2. A monoclonal antibody, or an antigen binding fragment thereof, comprising:~~

15 ~~a) a heavy chain variable region (VH) comprising complementary determining regions (CDRs) having the amino acid sequences set forth in SEQ ID NOs: 37-39; and~~

~~b) a light chain variable region (VL) comprising CDRs having the amino acid sequences set forth in SEQ ID NOs: 40-42.~~

20 23. The monoclonal antibody or antigen binding fragment thereof of claim 1, wherein the V_H comprises the amino acid sequence set forth in SEQ ID NO: 2, and the V_L comprises the amino acid sequence set forth in SEQ ID NO: 4.

34. The monoclonal antibody or antigen binding fragment thereof of claim 1, wherein the V_H comprises the amino acid sequence set forth in SEQ ID NO: 6, and

the V_L comprises the amino acid sequence set forth in SEQ ID NO: 8.

~~54.~~ The monoclonal antibody or antigen binding fragment thereof of claim 1, wherein the V_H region comprises the amino acid sequence set forth in SEQ ID NO: 10, and the V_L comprises the amino acid sequence set forth in SEQ ID NO: 12.

~~65.~~ The monoclonal antibody or antigen binding fragment thereof of claim 1, wherein the V_H comprises the amino acid sequence set forth in SEQ ID NO: 14, and the V_L comprises the amino acid sequence set forth in SEQ ID NO: 12.

~~7. The monoclonal antibody or antigen binding fragment thereof of claim 2, wherein the V_H comprises the amino acid sequence set forth in SEQ ID NO: 16, and the V_L comprises the amino acid sequence set forth in SEQ ID NO: 18.~~

~~8. The monoclonal antibody or antigen binding fragment thereof of claim 2, wherein the V_H comprises the amino acid sequence set forth in SEQ ID NO: 20, and the V_L comprises the amino acid sequence set forth in SEQ ID NO: 22.~~

~~9. The monoclonal antibody or antigen binding fragment thereof of claim 2, wherein the V_H comprises the amino acid sequence set forth in SEQ ID NO: 24, and the V_L comprises the amino acid sequence set forth in SEQ ID NO: 26.~~

~~10. The monoclonal antibody or antigen binding fragment thereof of claim 2, wherein~~

~~the VH comprises the amino acid sequence set forth in SEQ ID NO: 28, and~~

~~the VL comprises the amino acid sequence set forth in SEQ ID NO: 30.~~

5 ~~611.~~ The monoclonal antibody or antigen binding fragment thereof of any one of claims 1-~~510~~, wherein the monoclonal antibody or antigen binding fragment thereof is selected from an Fab, an Fab', an F(ab')₂, an Fd, an Fv, a dAb, a single chain antibody, a humanized antibody, a chimeric antibody, and a diabody.

10 ~~712.~~ The monoclonal antibody or antigen binding fragment thereof of any one of claims 1-~~510~~, wherein the monoclonal antibody or antigen binding fragment thereof binds to IL-17A with an EC₅₀ of less than ~~about~~ 100 nM.

15 ~~813.~~ The monoclonal antibody or antigen binding fragment thereof of any one of claims 1-~~510~~, wherein the monoclonal antibody or antigen binding fragment thereof comprises non-CDR regions derived from species other than mouse.

20 ~~914.~~ An isolated nucleic acid molecule, comprising a nucleic acid encoding the heavy chain variable region and the light chain variable region of the monoclonal antibody or antigen binding fragment thereof of any one of claims 1-~~510~~.

~~1015.~~ A conjugate comprising the monoclonal antibody or antigen binding fragment thereof of any one of claims 1-~~510~~ and a conjugated portion comprising a detectable label.

25 ~~1116.~~ A reagent kit comprising the monoclonal antibody or antigen binding fragment thereof of any one of claims 1-~~510~~.

1217. A pharmaceutical composition, comprising the monoclonal antibody or antigen binding fragment thereof of any one of claims 1-510 and at least one pharmaceutically acceptable carrier or excipient.

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1318. Use of the monoclonal antibody or antigen binding fragment thereof of any one of claims 1-510 in the manufacture of a medicament for the treatment of an autoimmune disease in a subject, wherein the monoclonal antibody or antigen binding fragment thereof is for administration to the subject in at least one effective amount.

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1419. The use of claim 1318, wherein the autoimmune disease is selected from psoriasis, moderate to severe plaque psoriasis, rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis, and systemic lupus erythematosus.