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[Summary]
[Technical Problem]

[0005]

The present disclosure has been made in view of the above-mentioned circumstances. In one example, an objective of the disclosure is to provide a novel means to suppress the progression of fibrosis. In another example, an objective of the present disclosure is to provide a novel means to suppress Th2 polarization, another key characteristic of the progression of fibrosis in systemic sclerosis.

[Solution to Problem]

[0006]

As a result of dedicated research, the present inventors discovered that the administration of an anti-IL-31 receptor A blocking antibody to systemic sclerosis model animals suppresses the progression of fibrosis. The present inventors further discovered that the administration of an anti-IL-31 receptor A antibody suppresses the Th2 polarization of T cells.

[0007]

In one aspect, the present disclosure relates to use of use of an antibody against IL-31 receptor A in the manufacture of a medicament for suppressing progression of fibrosis in systemic sclerosis. In another aspect, the present disclosure relates to use of an antibody against IL-31 receptor A in the manufacture a medicament for suppressing progression of fibrosis in systemic sclerosis, wherein the medicament suppresses Th2 polarization. The present disclosure is based on these findings, and specifically includes examples described below.

[A1] An agent for suppressing progression of fibrosis in systemic sclerosis, comprising an antibody against IL-31 receptor A as an active ingredient.

[A2] The agent for suppressing progression of fibrosis according to [A1], which suppresses Th2 polarization.

[A3] The agent for suppressing progression of fibrosis according to [A1] or [A2], wherein the antibody is an antibody having a neutralizing activity against IL-31 receptor A.

[A4] The agent for suppressing progression of fibrosis according to any one of [A1] to [A3], wherein the antibody is:

(1) an antibody comprising a heavy chain variable region comprising CDR1 having the amino acid sequence of SEQ ID NO: 1, CDR2 having the amino acid sequence of SEQ ID NO: 2, and CDR3 having the amino acid sequence of SEQ ID NO: 3, and a light chain variable region comprising CDR1 having the amino acid sequence of SEQ ID NO: 4, CDR2 having the amino acid sequence of SEQ ID NO: 5, and CDR3 having the amino acid sequence of SEQ ID NO: 6;

(2) an antibody comprising a heavy chain variable region having the amino acid sequence of SEQ ID NO: 7 and a light chain variable region having the amino acid sequence of SEQ ID NO: 8; or

(3) an antibody comprising a heavy chain having the amino acid sequence of SEQ ID NO: 9 and a light chain having the amino acid sequence of SEQ ID NO: 10.

[B1] An agent for suppressing Th2 polarization, which comprises an antibody against IL-31 receptor A as an active ingredient, and suppresses progression of fibrosis in systemic sclerosis.

[B2] The agent for suppressing Th2 polarization according to [B1], wherein the antibody is an antibody having a neutralizing activity against IL-31 receptor A.

[D1] A pharmaceutical composition for suppressing progression of fibrosis in systemic sclerosis, comprising an antibody against IL-31 receptor A as an active ingredient.

[D2] A pharmaceutical composition for suppressing Th2 polarization, which comprises an antibody against IL-31 receptor A as an active ingredient and is for suppressing progression of fibrosis in systemic sclerosis.

[D3] The pharmaceutical composition according to [D1] or [D2], wherein the antibody is an antibody having a neutralizing activity against IL-31 receptor A.

[CLAIMS]

1. Use of an antibody against IL-31 receptor A in the manufacture of a medicament for suppressing progression of fibrosis in systemic sclerosis.

2. Use of an antibody against IL-31 receptor A in the manufacture a medicament for suppressing progression of fibrosis in systemic sclerosis, wherein the medicament suppresses Th2 polarization.

3. The use according to claim 1 or 2, wherein the antibody is an antibody having a neutralizing activity against IL-31 receptor A.

4. The use according to any one of claims 1 to 3, wherein the antibody is:
(1) an antibody comprising a heavy chain variable region comprising CDR1 having the amino acid sequence of SEQ ID NO: 1, CDR2 having the amino acid sequence of SEQ ID NO: 2, and CDR3 having the amino acid sequence of SEQ ID NO: 3, and a light chain variable region comprising CDR1 having the amino acid sequence of SEQ ID NO: 4, CDR2 having the amino acid sequence of SEQ ID NO: 5, and CDR3 having the amino acid sequence of SEQ ID NO: 6;
(2) an antibody comprising a heavy chain variable region having the amino acid sequence of SEQ ID NO: 7 and a light chain variable region having the amino acid sequence of SEQ ID NO: 8; or
(3) an antibody comprising a heavy chain having the amino acid sequence of SEQ ID NO: 9 and a light chain having the amino acid sequence of SEQ ID NO: 10.