Claims

[Claim 1] A therapeutic agent for pustular psoriasis or psoriatic erythroderma that is administered to a psoriasis patient that has been administered with an anti-TNF-alpha antibody, comprising an IL-17RA antagonist as an active ingredient.

[Claim 2] The therapeutic agent according to claim 1, wherein the anti-TNF-alpha antibody is at least one selected from adalimumab, infliximab, certolizumab pegol, certolizumab, and golimumab.

[Claim 3] The therapeutic agent according to claim 1 or 2, wherein the IL-17RA antagonist is an anti-IL-17RA antibody or an antibody fragment thereof.

[Claim 4] The therapeutic agent according to claim 3, wherein the anti-IL-17RA antibody is selected from the following a) and b):

a) a monoclonal antibody in which a complementarity determining region (hereinafter, referred to as CDR) 1, CDR2, and CDR3 of a heavy chain variable region (hereinafter, referred to as VH) of the antibody comprise the amino acid sequences shown in SEQ ID NOs:1, 2, and 3, respectively, and CDR1, CDR2, and CDR3 of a light chain variable region (hereinafter, referred to as VL) of the antibody comprise the amino acid sequences shown in SEQ ID NOs:4, 5, and 6, respectively; and

b) a monoclonal antibody in which VH of the antibody comprises the amino acid sequence shown in SEQ ID NO:7, and VL of the antibody comprises the amino acid sequence shown in SEQ ID NO:8.

[Claim 5] The therapeutic agent according to any one of claims 1 to 4, wherein the clinical global impression (hereinafter, also referred to as CGI) of a patient after administration of the therapeutic agent becomes 2 or 1.

[Claim 6] The therapeutic agent according to any one of claims 1 to 5, wherein the psoriasis area and severity index (hereinafter, referred to as PASI) score of a patient after administration of the therapeutic agent is lower than that before administration of the therapeutic agent.

[Claim 7] A therapeutic agent for psoriasis that is administered to a psoriasis patient that cannot be treated with an anti-TNF-alpha antibody, comprising an IL-17RA antagonist as an active ingredient.

[Claim 8] The therapeutic agent according to claim 7, wherein the patient that cannot be treated with the anti-TNF-alpha antibody is a patient that does not respond to the anti-TNF-alpha antibody or that is of in-

sufficient tolerability to the anti-TNF-alpha antibody.

[Claim 9] The therapeutic agent according to claim 7 or 8, the anti-TNF-alpha antibody is at least one selected from adalimumab, infliximab, certolizumab pegol, certolizumab, and golimumab.

[Claim 10] The therapeutic agent according to any one of claims 7 to 9, wherein the IL-17RA antagonist is an anti-IL-17RA antibody or an antibody fragment thereof.

[Claim 11] The therapeutic agent according to claim 10, wherein the anti-IL-17RA antibody is selected from the following a) and b):

a) a monoclonal antibody in which CDR1, CDR2, and CDR3 of VH of the antibody comprise the amino acid sequences shown in SEQ ID NOs:1, 2, and 3, respectively, and CDR1, CDR2, and CDR3 of VL of the antibody comprise the amino acid sequences shown in SEQ ID NOs:4, 5, and 6, respectively; and

b) a monoclonal antibody in which VH of the antibody comprises the amino acid sequence shown in SEQ ID NO:7, and VL of the antibody comprises the amino acid sequence shown in SEQ ID NO:8.

[Claim 12] The therapeutic agent according to any one of claims 7 to 11, wherein the psoriasis is at least one selected from psoriasis vulgaris, psoriasis arthropica, pustular psoriasis, psoriatic erythroderma, and psoriasis guttata.

[Claim 13] The therapeutic agent according to any one of claims 7 to 12, wherein the CGI of a patient after administration of the therapeutic agent becomes 2 or 1.

[Claim 14] The therapeutic agent according to any one of claims 7 to 13, wherein the PASI score of a patient after administration of the therapeutic agent is lower than that before administration of the therapeutic agent.

[Claim 15] A method for the treatment of pustular psoriasis or psoriatic erythroderma, comprising administering an IL-17RA antagonist to a psoriasis patient that has been administered with an anti-TNF-alpha antibody.

[Claim 16] The method according to claim 15, wherein the anti-TNF-alpha antibody is at least one selected from adalimumab, infliximab, certolizumab pegol, certolizumab, and golimumab.

[Claim 17] The method according to claim 15 or 16, wherein the IL-17RA antagonist is an anti-IL-17RA antibody or an antibody fragment thereof.

[Claim 18] The method according to claim 17, wherein the anti-IL-17RA antibody is selected from the following a) and b):

a) a monoclonal antibody in which CDR1, CDR2, and CDR3 of VH of the antibody comprise the amino acid sequences shown in SEQ ID NOs:1, 2, and 3, respectively, and CDR1, CDR2, and CDR3 of VL of the antibody comprise the amino acid sequences shown in SEQ ID NOs:4, 5, and 6, respectively; and
b) a monoclonal antibody in which VH of the antibody comprises the amino acid sequence shown in SEQ ID NO:7, and VL of the antibody comprises the amino acid sequence shown in SEQ ID NO:8.

[Claim 19] The method according to any one of claims 15 to 18, wherein the CGI of the patient after the administration of the IL-17RA antagonist becomes 2 or 1.

[Claim 20] The method according to any one of claims 15 to 19, wherein the PASI score of a patient after the administration of the IL-17RA antagonist is lower than that before the administration of the antagonist.

[Claim 21] The method according to any one of claims 15 to 20, wherein the IL-17RA antagonist is administered in a dose of 140 mg or more.

[Claim 22] The method according to any one of claims 15 to 21, wherein the IL-17RA antagonist is administered in a dose of 140 mg or 210 mg.

[Claim 23] The method according to any one of claims 15 to 22, wherein the IL-17RA antagonist is administered in a dose of 140 mg or 210 mg on the 1st day, the 1st week and the 2nd week, and thereafter once every two weeks.

[Claim 24] A method for the treatment of psoriasis, comprising administering an IL-17RA antagonist to a psoriasis patient that cannot be treated with an anti-TNF-alpha antibody.

[Claim 25] The method according to claim 24, wherein the patient that cannot be treated with the anti-TNF-alpha antibody is a patient that is ineffective to the anti-TNF-alpha antibody or that is of insufficient tolerability to the anti-TNF-alpha antibody.

[Claim 26] The method according to claim 24 or 25, wherein the anti-TNF-alpha antibody is at least one selected from adalimumab, infliximab, certolizumab pegol, certolizumab, and golimumab.

[Claim 27] The method according to any one of claims 24 to 26, wherein the IL-17RA antagonist is an anti-IL-17RA antibody or an antibody fragment thereof.

[Claim 28] The method according to claim 27, wherein the anti-IL-17RA antibody is selected from the following a) and b):
a) a monoclonal antibody in which CDR1, CDR2, and CDR3 of VH of

the antibody comprise the amino acid sequences shown in SEQ ID NOs:1, 2, and 3, respectively, and CDR1, CDR2, and CDR3 of VL of the antibody comprise the amino acid sequences shown in SEQ ID NOs:4, 5, and 6, respectively; and

b) a monoclonal antibody in which VH of the antibody comprises the amino acid sequence shown in SEQ ID NO:7, and VL of the antibody comprises the amino acid sequence shown in SEQ ID NO:8.

[Claim 29] The method according to any one of claims 24 to 28, wherein the psoriasis is at least one selected from psoriasis vulgaris, psoriasis arthropica, pustular psoriasis, psoriatic erythroderma, and psoriasis guttata.

[Claim 30] The method according to any one of claims 24 to 29, wherein the CGI of a patient after the administration of the IL-17RA antagonist becomes 2 or 1.

[Claim 31] The method according to any one of claims 24 to 30, wherein the PASI score of a patient after the administration of the IL-17RA antagonist is lower than that before the administration of the antagonist.

[Claim 32] The method according to any one of claims 24 to 31, wherein the IL-17RA antagonist is administered in a dose of 140 mg or more.

[Claim 33] The method according to any one of claims 24 to 32, wherein the IL-17RA antagonist is administered in a dose of 140 mg or 210 mg.

[Claim 34] The method according to any one of claims 24 to 33, wherein the IL-17RA antagonist is administered in a dose of 140 mg or 210 mg on the 1st day, the 1st week and the 2nd week, and thereafter once every two weeks.