CLAIMS

1. A method of purifying a composition containing a whole antibody with a pI of 5.0 to 7.5, which comprises the steps of:
(a) treating the composition containing the whole antibody with a pI of 5.0 to 7.5 with an acidic condition;
(b) neutralizing the acidic composition obtained in step (a); and
(c) removing aggregates from the neutralized composition obtained in step (b) after at least one hour following the neutralization, wherein the aggregate removal is carried out by anion exchange chromatography or hydroxyapatite chromatography.

2. The method of claim 1, wherein step (a) is a virus-inactivating treatment step performed after Protein A column chromatography purification of the whole antibody with a pI of 5.0 to 7.5.

3. The method of claim 1 or 2, wherein step (c) is a step of removing aggregates from the neutralized composition obtained in step (b) after holding for at least one hour following the neutralization.

4. The method of any one of claims 1 to 3, wherein the pI of the whole antibody is 5.0 to 6.5.

5. A method of removing impurities from a composition containing a whole antibody with a pI of 5.0 to 7.5, which includes the steps of:
(a) loading the composition containing the whole antibody with a pI of 5.0 to 7.5 onto an anion exchange resin; and
(b) eluting the whole antibody with a pI of 5.0 to 7.5 from the anion exchange resin with the Bind/Elute mode using an eluting solution that has a salt concentration higher than that of the composition of (a).

6. The method of claim 5, which includes the step of washing the anion exchange resin with a washing solution before step (b).

7. The method of claim 5 or 6, wherein the eluting solution of step (b) is a solution containing at least one selected from the group consisting of sodium chloride, Tris salt, sodium sulfate salt, and sodium phosphate salt.

8. The method of claim 7, wherein the eluting solution of step (b) is a solution containing Tris salt.

9. The method of any one of claims 5 to 8, which further comprises the step of loading the elution product containing the whole antibody with a pI of 5.0 to 7.5 obtained in step (b) onto chromatography that uses a resin containing a hydrophobic ligand and/or a multimodal ligand, and obtaining a Flow-through fraction and/or an elution fraction.

10. The method of any one of claims 1 to 4, wherein aggregates removal is carried out by the method of any one of claims 5 to 9.

11. The method of any one of claims 1 to 10, wherein the whole antibody is a humanized antibody or a human antibody.

12. The method of any one of claims 1 to 11, wherein the whole antibody is an anti-IL-6 receptor antibody or an anti-IL-31 receptor antibody.

13. A method of producing a composition containing a whole antibody with a pI of 5.0 to 7.5, in which the content ratio of the antibody aggregates are 3% or less, by the method of any one of claims 1 to 12.

14. A composition containing a whole antibody with a pI of 5.0 to 7.5, in which the content ratio of the antibody aggregates is 3% or less.

15. A method of producing a pharmaceutical composition containing a whole antibody with a pI of 5.0 to 7.5, which includes the steps of:
1) producing a whole antibody with a pI of 5.0 to 7.5 and/or a composition containing such a whole antibody by the production method of claim 13; and
2) formulating the whole antibody with a pI of 5.0 to 7.5 and/or the composition containing such a whole antibody produced in step 1) by mixing it with a pharmaceutically acceptable carrier and/or additive.

16. A method of removing an antibody aggregate from a composition containing a whole antibody with a pI of 5.0 to 7.5, which includes the steps of:
(a) treating the composition containing a whole antibody with a pI of 5.0 to 7.5 with an acidic condition;

(b) neutralizing the acidic composition obtained in step (a); and

(c) removing aggregates from the neutralized composition obtained in step (b) after at least one hour following the neutralization, wherein the aggregate removal is carried out by anion exchange chromatography or hydroxyapatite chromatography.

17. A method of purifying a composition containing a whole antibody with a pI of 5.0 to 7.5, which includes the steps of:

(a) treating the composition containing a whole antibody with a pI of 5.0 to 7.5 with an acidic condition;

(b) neutralizing the acidic composition obtained in step (a); and

(c) removing aggregates from the neutralized composition obtained in step (b) after a sufficient time for aggregate formation has passed, wherein the aggregate removal is carried out by anion exchange chromatography or hydroxyapatite chromatography.