Claims

1. A stable antibody-containing liquid formulation, comprising at least 120 mg/ml antibody, 100 to 300 mM arginine and 10 to 50 mM methionine, wherein the antibody is humanized anti-IL-6 receptor antibody MRA.

2. The formulation of claim 1 further comprising a histidine buffering agent.

3. The formulation of claim 1 or 2 further comprising a surfactant.

4. The formulation according to any of the preceding claims further comprising tryptophane.

5. The formulation according to any of the preceding claims having the pH in the range from 4 to 8.

6. The formulation according to any of the preceding claims having a viscosity of from 2 to 15 mPa·s.

7. The formulation according to any of the preceding claims, which is stable at 22-28° C. for at least 6 months.

8. The formulation according to any of claims 1 to 6, characterized in that dimerization of antibody molecules is inhibited.

9. The formulation according to any of claims 1 to 6, characterized in that deamidation of antibody molecules is inhibited.

10. The formulation according to any of claims 1 to 6, which is for subcutaneous administration.

11. The formulation according to any of claims 1 to 6 which has not been subjected to lyophilization during preparation of the formulation.

12. A method for inhibiting dimerization of molecules of humanized anti-IL-6 receptor antibody MRA in a liquid formulation, comprising adding arginine and methionine to the liquid formulation, wherein the formulation comprises at least 120mg/ml of humanized anti-IL-6 receptor antibody MRA, wherein the arginine is added to the formulation in the amount of 100 to 300mM, and the methionine in the amount of 10 to 50mM.

13. The method of claim 12, wherein the formulation comprises 10 to 20mM of a histidine buffering agent, and 0.005 to 3w/v% of polysorbate 80, and has a pH of 6.0 to 6.5.

14. The formulation of claim 1, wherein the formulation comprises 180 mg/ml of humanized anti-IL-6 receptor antibody MRA.

15. The method of claim 12, wherein the formulation comprises 180 mg/ml of humanized anti-IL-6 receptor antibody MRA.

16. A method for suppressing deamidation of humanized anti-IL-6 receptor antibody MRA in a liquid formulation, comprising adding arginine to the liquid formulation, wherein the formulation comprises 180mg/ml of humanized anti-IL-6 receptor antibody MRA, and wherein the arginine is added to the formulation in the amount of 100 to 300mM.

17. The method of claim 16, wherein the arginine is added to the formulation in the amount of 150 to 300mM.

18. The method of claim 17, wherein the arginine is added to the formulation in the amount of 200 to 300mM.

19. The method of claim 16, wherein the formulation is for subcutaneous administration.