Claims

1. A serum-free cell culture medium for growing mammalian cells which is characterized by a molar ratio of sodium to potassium ions of between about 10 to 1 and about 1 to 1.

2. The cell culture medium of claim 1 wherein the medium is a protein-free medium.

3. The cell culture medium of claim 1 or 2 wherein the molar ratio of sodium to potassium ions is between about 8 to 1 and about 6 to 1.

4. The cell culture medium of any of the preceding claims wherein the concentration of sodium ions is between about 50 and about 90 mM.

5. The cell culture medium of any of the preceding claims wherein the concentration of potassium ions is between about 8 and about 12 mM.

6. The cell culture medium of any of the preceding claims wherein the total amino acid concentration is between about 40 and about 100 mM.

7. The cell culture medium of any of the preceding claims wherein the molar ratio between the total ion concentration to the total amino acid concentration is between about 1.9 and about 4.

8. A process for the production of a recombinant polypeptide comprising culturing mammalian cells in a medium as defined in any of claims 1 to 7 and expressing the recombinant polypeptide.

9. The process according to claim 8 wherein the culturing conditions comprise at least one temperature shift and/or at least one pH shift.

10. The process according to claim 8 or 9, wherein culturing is done by a fed batch process.

11. The process according to any of claims 8 to 10 wherein the produced polypeptides are glycosylated.

12. The process according to any of claims 8 to 11, wherein the polypeptide is an antibody or antibody fragment.

13. The process according to any of claims 8 to 12, wherein the mammalian cells are selected from the group consisting of CHO cells, HEK cells and SP2/0 cells.

14. A process for the production of a cell culture medium according to claim 1 wherein the different components are admixed with each other.

15. The process according to claim 14 wherein sodium chloride is added at a concentration between about 7 and about 15 mM.

16. The process according to claim 14 or 15 wherein potassium chloride is added at a concentration between about 8 and about 12 mM.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A serum-free cell culture medium for growing mammalian cells which is characterized by a molar ratio of sodium to potassium ions of between about 10 to 1 and about 1 to 1.

2. The cell culture medium of claim 1 wherein the medium is a protein-free medium.

3. The cell culture medium of claim 1 or 2 wherein the molar ratio of sodium to potassium ions is between about 8 to 1 and about 6 to 1.

4. The cell culture medium of any one of claims 1 to 3 wherein the concentration of sodium ions is between about 50 and about 90 mM.

5. The cell culture medium of any one of claims 1 to 4 wherein the concentration of potassium ions is between about 8 and about 12 mM.

6. The cell culture medium of any one of claims 1 to 5 wherein the total amino acid concentration is between about 40 and about 100 mM.

7. The cell culture medium of any one of claims 1 to 6 wherein the molar ratio between the total ion concentration to the total amino acid concentration is between about 1.9 and about 4.

8. A process for the production of a recombinant polypeptide comprising culturing mammalian cells in a medium as defined in any one of claims 1 to 7 and expressing the recombinant polypeptide.

9. The process according to claim 8 wherein the culturing conditions comprise at least one temperature shift and/or at least one pH shift.

10. The process according to claim 8 or 9, wherein culturing is done by a fed batch process.

11. The process according to any one of claims 8 to 10 wherein the produced polypeptides are glycosylated.

12. The process according to any one of claims 8 to 11, wherein the polypeptide is an antibody or antibody fragment.

13. The process according to any one of claims 8 to 12, wherein the mammalian cells are selected from the group consisting of CHO cells, HEK cells and SP2/0 cells.

14. A process for the production of a cell culture medium according to claim 1 wherein the different components are admixed with each other.

15. The process according to claim 14 wherein sodium chloride is added at a concentration between about 7 and about 15 mM.

16. The process according to claim 14 or 15 wherein potassium chloride is added at a concentration between about 8 and about 12 mM.