CLAIMS

1. A method of cell culture comprising adding a cell-containing seed medium to an initial medium and starting to culture the cell in the initial medium, wherein the initial medium has a fish-derived culture medium additive added thereto which has been preliminarily measured for the copper content of no more than 1ppm and the copper content of the initial medium at the start of cell culture is no more than 0.02 ppm, wherein the fish-derived culture medium additive is a bonito hydrolysate.

2. The method according to claim 1, wherein the copper content of the initial medium at the start of cell culture is no more than 0.015 ppm.

3. The method according to claim 1 or 2, wherein the initial medium having a fish-derived culture medium additive added thereto is prepared such that the bonito hydrolysate with a copper content of no more than 1 ppm has been added to the seed medium which is to be added to the initial medium.

4. The method according to any one of claims 1 to 3, wherein the method of culture is batch culture, fed-batch culture, continuous culture, batch culture, or semi-batch culture.

5. The method according to any one of claims 1 to 3, wherein the method of culture is fed-batch culture.

6. The method according to claim 5, wherein a further fish-derived culture medium additive is added to the initial medium such that a fish-derived culture medium additive with a copper content of no more than 3 ppm has been added to a fed-batch medium which is to be added to the initial medium, wherein the fish-derived culture medium additive is a bonito hydrolysate.

7. The method according to claim 5 or 6, wherein the copper ions derived from the fed-batch medium are present at no more than 0.08 ppm in the initial medium at the end of culture.

8. The method according to any one of claims 5 to 7, wherein the copper ions in the initial medium at the end of culture are present at no more than 0.1 ppm.

9. The method according to any one of claims 1 to 8, wherein the cell is an animal cell.

10. The method according to claim 9, wherein the cell is a mammalian cell.

11. The method according to claim 10, wherein the mammalian cell is a CHO cell.

12. The method according to any one of claims 1 to 11, wherein the cell has been transfected with a gene coding for a desired protein.

13. The method according to claim 12, wherein the desired protein is an antibody.

14. The method according to claim 13, wherein the antibody is tocilizumab.

15. A method of cell culture comprising the steps of:
1) preliminarily measuring the copper content in a fish-derived culture medium additive to be added to a medium, wherein the fish-derived culture medium additive is a bonito hydrolysate; and
2) selecting the measured additive with a copper content of no more than 1 ppm and adding the same to an initial medium, wherein the copper content of the initial medium at the start of cell culture is no more than 0.02 ppm.

16. A method of fed-batch cell culture comprising the steps of:
1) preliminarily measuring the copper content in a fish-derived culture medium additive to be added to a medium, wherein the fish-derived culture medium additive is a bonito hydrolysate;
2) selecting the measured additive with a copper content of no more than 1 ppm and adding the same to a seed medium or an initial medium, wherein the copper content of the initial medium at the start of cell culture is no more than 0.02 ppm; and
3) selecting the measured additive with a copper content of no more than 3 ppm and adding the same to a fed-batch medium.

17. A process for producing a protein using the method of culture according to any one of claims 1 to 16.

18. A process for producing a pharmaceutical composition containing a desired protein, comprising the steps of:
1) producing the desired protein by the production process according to claim 17; and
2) producing the pharmaceutical composition by mixing the desired protein produced in step 1) with a carrier and an additive that are pharmaceutically acceptable and formulating the same.

19. A method of suppressing the generation of C-terminal amidated species in a desired protein by using the culture method according to any one of claims 1 to 16, wherein the desired protein is an antibody.