a mammalian cell, wherein the method comprises growing and/or culturing the mammalian cell in a serum-free mammalian cell culture medium comprising maltose and glucose as carbohydrate sources, wherein maltose is present at a concentration of between 0.5 g/litre to 40 g/litre and glucose is present at a concentration of between 2 g/litre to 8 g/litre, and wherein the protein is an antibody or an immunoglobulin.

[0007] In first example, there is provided a serum-free cell culture medium. The cell culture medium comprises maltose as sole carbohydrate source.

[0008] In second example, there is provided a serum-free cell culture medium comprising maltose and at least one, at least two, at least three or more saccharides as carbohydrate sources.

[0009] In third example, there is provided a method of growing and/or culturing a cell, wherein the method comprises growing and/or culturing a cell in the serum-free cell culture medium of the first example or the second example.

[0010] In fourth example, there is provided a method of growing and/or culturing a cell, wherein the method comprising growing and/or culturing a cell in the serum-free cell culture medium as described herein.

[0011] In fifth example, there is provided a method of increasing protein yield, wherein the method comprises growing and/or culturing a cell in the serum-free cell culture medium as described herein.

[0012] In sixth example, there is provided a kit comprising the components of the serum-free cell culture medium as described herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The invention will be better understood with reference to the detailed description when considered in conjunction with the non-limiting examples and the accompanying drawings, in which:

[0014] **Figure 1** shows the results of adaptability tests of Chinese Hamster Ovary (CHO) cells in various disaccharide media. In (A) CHO-K1 cells were cultivated in a serum-free protein-free cell culture medium, HyQ PF-CHO, with 3.6 g/l of different sugars (maltose,

Claims

1. A method of increasing protein yield of a mammalian cell, wherein the method comprises growing and/or culturing the mammalian cell in a serum-free mammalian cell culture medium comprising maltose and glucose as carbohydrate sources, wherein maltose is present at a concentration of between 0.5 g/litre to 40 g/litre and glucose is present at a concentration of between 2 g/litre to 8 g/litre, and wherein the protein is an antibody or an immunoglobulin.

2. The method of claim 1, wherein the serum-free mammalian cell culture medium is protein-free.

3. The method of claim 1 or 2, wherein the serum-free mammalian cell culture medium is a chemically defined medium.

4. The method of any one of the preceding claims, wherein the serum-free mammalian cell culture medium is a protein-free chemically defined medium (PFCDM).

5. The method according to any one of the preceding claims, wherein the cell culture medium is further combined with an ionic surfactant or a non-ionic surfactant.

6. The method according to any one of the preceding claims, wherein the cell culture medium further comprises an antibiotic agent.

7. The method of any one of the preceding claims, wherein each ingredient is present in an amount which supports the cultivation of a cell *in vitro*.

8. The method according to claim 1, wherein the serum-free mammalian cell culture medium comprises Dulbecco's minimum essential medium (DMEM), F-12 basal medium (DMEM-F12), L-glutamine, a non-ionic surfactant, geneticin, maltose and glucose, or a modified version thereof.

9. The method of any one of the preceding claims, wherein the serum-free mammalian cell culture medium is in powdered or liquid form.

10. The method of claim 1, wherein the cell is able to metabolize maltose without requiring prior adaptation.

11. The method of any one of the preceding claims, wherein the serum-free mammalian cell culture medium is used to grow and/or culture mammalian cells in a cell culture method selected from the group consisting of batch, fed-batch, continuous, and perfusion.

12. The method of any one of the preceding claims, wherein the culture medium is used

as a basal medium, a feed medium, and/or a perfusion medium.