Claims

1. A cell culture medium supplement comprising at least one plant protein homologue of a serum protein, wherein said supplement is devoid of any serum proteins.

2. The cell culture medium supplement of claim 1, wherein said supplement is essentially devoid of any animal serum-derived component.

3. The cell culture medium supplement of any one of claims 1 or 2, wherein the at least one plant protein homologue comprises the water soluble fraction of a plant protein isolate, wherein the water soluble fraction comprises plant albumins and globulins

4. The cell culture medium supplement of any one of claims 1 or 2, wherein said at least one plant protein homologue is a homologue of a serum albumin, a serum catalase, a serum superoxide dismutase, a serum transferrin, a serum fibronectin, a serum vitronectin, a serum insulin, a serum hemoglobin, a serum aldolase, a serum lipase, a serum transaminase, a serum aminotransferase, a serum fetuin, or a combination thereof.

5. The cell culture medium supplement of claim 4, wherein said at least one plant protein homologue is a plant albumin, a plant catalase, a plant superoxide dismutase, a plant transferrin, a plant fibronectin, a plant vitronectin, a plant insulin, a plant leghemoglobin, a plant aldolase, a plant lipase, a plant transaminase, a plant aminotransferase, a plant cystatin, or a combination thereof.

6. The cell culture medium supplement of claim 5, wherein the at least one plant protein homologue comprises a plant albumin, a plant catalase, a plant fibronectin, and a plant insulin.

7. The cell culture medium supplement of claim 5, wherein said at least one plant protein homologue is a plant albumin.

8. The cell culture medium supplement of claim 6 or 7, wherein said plant albumin is a chickpea albumin, a hempseed albumin, a lentil albumin, a pea albumin, a soy albumin, a wheat albumin or a potato albumin.

9. The cell culture medium supplement of claim 7, wherein said plant albumin is from the water soluble fraction of a plant protein isolate.

10. The cell culture medium supplement of any one of claims 5 to 8 or 9, wherein said plant albumin is present in the cell culture medium supplement at a concentration such that when the cell culture medium supplement is added to a cell culture medium the plant albumin has a final concentration of about 0.01% to about 10% by weight in the cell culture medium.

11. The cell culture medium supplement of claim 5, wherein said at least one plant protein homologue is a plant catalase.

12. The cell culture medium supplement of claim 6 or 11, wherein said plant catalase is an *Arabidopsis* catalase, a cabbage catalase, a cucumber catalase, a cotton catalase, a potato catalase, a pumpkin catalase, a spinach catalase, a sunflower catalase, a tobacco catalase or a tomato catalase.

13. The cell culture medium supplement of any one of claims 11 or 12, wherein said plant catalase is present in the cell culture medium supplement at a concentration such that when the cell culture medium supplement is added to a cell culture medium the plant catalase has a final concentration of about 1 ng/ml to about 100 ng/ml in the cell culture medium.

14. The cell culture medium supplement of claim 5, wherein said at least one plant protein homologue is a plant fibronectin.

15. The cell culture medium supplement of claim 6 or 14, wherein said plant fibronectin is a bean fibronectin, a chickpea fibronectin, a lentil fibronectin, a rice fibronectin, a soy fibronectin, a tobacco fibronectin or a wheat fibronectin.

16. The cell culture medium supplement of any one of claims 14 to 15, wherein said plant fibronectin is present in the cell culture medium supplement at a concentration such that when the cell culture medium supplement is added to a cell culture medium the plant fibronectin has a final concentration of about 0.1 µg/ml to about 100 µg/ml in the cell culture medium.

17. The cell culture medium supplement of claim 5, wherein said at least one plant protein homologue is a plant insulin.

18. The cell culture medium supplement of claim 6 or 17, wherein said plant insulin is glucokinin, charantin, or corosolic acid.

19. The cell culture medium supplement of claim 17 or 18, wherein said plant insulin is present in the cell culture medium supplement at a concentration such that when the cell culture medium supplement is added to a cell culture medium the plant insulin has a final concentration of about 0.05 µg/ml to about 10 µg/ml in the cell culture medium.

20. A cell culture medium comprising a serum-free medium and the cell culture medium supplement according to any one of claims 1, 2, 3, 4-8, 9, 10-12, 13-15, or 16-19, wherein said serum-free medium is essentially devoid of any animal serum-derived components.

21. A method of producing cultured meat, comprising culturing cells in the cell culture medium of claim 20, and producing meat from the cultured cells.

22. The method of claim 21, wherein said cells are from edible animals, wherein the edible animal is livestock, game, poultry, fish, or crustacean.

23. The method of any one of claims 21 to 22, wherein said cells are fibroblasts.

24. The method of claim 23, wherein said fibroblasts are bovine fibroblasts or chicken fibroblasts.

25. Cultured meat produced by the method of any one of claims 21 to 24.