

**WHAT IS CLAIMED IS:**

1. A cell culture medium supplement comprising at least one plant protein homologue of a serum protein.
2. The cell culture medium supplement of claim 1, wherein said supplement is devoid of any serum proteins.
3. The cell culture medium supplement of any one of claims 1 or 2, wherein said supplement is essentially devoid of any animal serum-derived component.
4. The cell culture medium supplement of any one of claims 1 to 3, wherein the at least one plant protein homologue comprises the water soluble fraction of a plant protein isolate.
5. The cell culture medium supplement of claim 4, wherein the water soluble fraction comprises plant albumins and globulins
6. The cell culture medium supplement of any one of claims 1 to 3, 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.
7. The cell culture medium supplement of claim 6, 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.
8. The cell culture medium supplement of claim 7, wherein the at least one plant protein homologue comprises a plant albumin, a plant catalase, a plant fibronectin, and a plant insulin.

9. The cell culture medium supplement of claim 7, wherein said at least one plant protein homologue is a plant albumin.
10. The cell culture medium supplement of claim 8 or 9, 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.
11. The cell culture medium supplement of claim 10, wherein said plant albumin is a pea albumin or a potato albumin.
12. The cell culture medium supplement of claim 9, wherein said plant albumin is from the water soluble fraction of a plant protein isolate.
13. The cell culture medium supplement of any one of claims 7 to 12, wherein said plant albumin has a molecular weight of about 13-110 kilodalton.
14. The cell culture medium supplement of claim 13, wherein said plant albumin has a molecular weight of about 13-17 kilodalton.
15. The cell culture medium supplement of claim 13, wherein said plant albumin has a molecular weight of about 20-35 kilodalton.
16. The cell culture medium supplement of claim 13, wherein said plant albumin has a molecular weight of about 50-110 kilodalton.
17. The cell culture medium supplement of any one of claims 7 to 16, 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.
18. The cell culture medium supplement of claim 7, wherein said at least one plant protein homologue is a plant catalase.

19. The cell culture medium supplement of claim 8 or 18, 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.
20. The cell culture medium supplement of claim 19, wherein said plant catalase is a cabbage catalase, a cucumber catalase or a potato catalase.
21. The cell culture medium supplement of any one of claims 18 to 20, wherein said plant catalase has a molecular weight of about 50-70 kilodaltons.
22. The cell culture medium supplement of any one of claims 18 to 21, 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.
23. The cell culture medium supplement of claim 7, wherein said at least one plant protein homologue is a plant fibronectin.
24. The cell culture medium supplement of claim 8 or 23, 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.
25. The cell culture medium supplement of claim 24, wherein said plant fibronectin is a chickpea fibronectin, a lentil fibronectin, a rice fibronectin, a soy fibronectin or a wheat fibronectin.
26. The cell culture medium supplement of any one of claims 23 to 25, wherein said plant fibronectin has a molecular weight of about 40-60 kilodaltons.
27. The cell culture medium supplement of any one of claims 23 to 26, 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.

28. The cell culture medium supplement of claim 7, wherein said at least one plant protein homologue is a plant insulin.
29. The cell culture medium supplement of claim 8 or 28, wherein said plant insulin is glucokinin, charantin, or corosolic acid.
30. The cell culture medium supplement of claim 28 or 29, 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.
31. The cell culture medium supplement of any one of the preceding claims, wherein said at least one plant protein homologue is in the form of plant extract fractions or a pure form.
32. A cell culture medium comprising a serum-free medium and the cell culture medium supplement according to any one of claims 1 to 31, wherein said serum-free medium is essentially devoid of any animal serum-derived components.
33. The cell culture medium of claim 32, wherein said serum-free medium is a base physiological buffer.
34. A kit comprising the cell culture medium supplement of any one of claims 1 to 31 and instructions for mixing the cell culture medium supplement with a serum-free medium devoid of any animal serum-derived components.
35. A method of producing cultured meat, comprising culturing cells in the cell culture medium of claim 32 or 33, and producing meat from the cultured cells.
36. The method of claim 35, wherein said cells are from edible animals.

37. The method of claim 36, wherein the edible animal is livestock, game, poultry, fish, or crustacean.
38. The method of any one of claims 35 to 37, wherein said cells are fibroblasts.
39. The method of claim 38, wherein said fibroblasts are bovine fibroblasts or chicken fibroblasts.
40. Cultured meat produced by the method of any one of claims 35 to 39.
41. A method for producing a cell culture medium devoid of any animal proteins and/or components, comprising admixing a serum-free base medium and the cell culture medium supplement of any one of claims 1 to 31, wherein the serum-free base medium and cell culture medium supplement are each essentially devoid of any animal serum-derived components.
42. A cell culture medium produced by the method of claim 41.
43. Use of a plant protein homologue of an animal protein in place of the animal protein in a cell culture medium supplement.
44. The use of claim 43, wherein the animal protein is a serum protein.
45. The use of claim 43 or 44, wherein said supplement is essentially devoid of any animal serum-derived components.