CLAIMS

1. A composition for improving the antioxidant capacity in an animal, wherein the composition contains beta-casein, and wherein the beta-casein comprises at least 75% by weight of one or more beta-caseins not capable of producing beta-casomorphin-7 on enzymatic digestion.

2. A composition as claimed in claim 1 wherein the one or more beta-caseins are selected from the A2 type beta-caseins.

3. A composition as claimed in claim 1 or claim 2 wherein ingestion of the composition increases the level of glutathione in the blood or tissue of the animal.

4. A composition as claimed in any one of claims 1 to 3 wherein ingestion of the composition avoids or reduces the risk of diseases or disorders associated with oxidative stress.

5. A composition as claimed in claim 4 wherein the diseases or disorders associated with oxidative stress are selected from the group comprising cancer, inflammation, kwashiorkor (protein deficiency), seizure, autism, Down's syndrome, chronic fatigue syndrome, Alzheimer's disease, Parkinson's disease, sickle cell anaemia, liver disease, cystic fibrosis, HIV, AIDS, infection, heart attack, stroke, and diabetes.

6. A composition as claimed in any one of claims 1 to 3 wherein ingestion of the composition avoids or reduces the effects of aging, promotes the recovery of tissue following physcial exercise, or promotes fertility.

7. A composition as claimed in any one of claims 1 to 6 wherein the animal is a human, a dog, or a cat.

8. A composition as claimed in any one of claims 1 to 7 wherein the beta-casein comprises at least 90% by weight A2 beta-casein.

9. A composition as claimed in any one of claims 1 to 8 wherein the beta-casein comprises 100% A2 beta-casein.

10. A composition as claimed in any one of claims 1 to 9 which is milk or a milk product.

11. A composition as claimed in claim 10 wherein the milk is fresh milk, milk powder, liquid milk reconstituted from powder, skim milk, homogenised milk, condensed milk, evaporated milk, pasteurised milk, or non-pasteurised milk.

12. A composition as claimed in claim 10 wherein the milk product is cream, yoghurt, quark, cheese, butter, ice cream, infant formula, an adult nutritional product, a protein supplement, or a petfood.

13. A composition as claimed in claim 10 or claim 11 wherein the milk is obtained by genotype testing or phenotype testing of bovine cows, and milking only those cows which have been determined to produce only the A2 type of beta-casein in their milk.

14. A composition as claimed in claim 13 wherein a herd of cows is formed comprising only those cows which have been determined to produce only the A2 type of beta-casein A2 in their milk and then milking one or more cows of the herd.

15. The use of milk in the manufacture of a composition for improving the antioxidant capacity in an animal, wherein the milk contains beta-casein, and wherein the beta-casein comprises at least 75% by weight of one or more beta-caseins not capable of producing beta-casomorphin-7 on enzymatic digestion.

16. The use as claimed in claim 15 wherein the one or more beta-caseins are selected from the A2 type beta-caseins.

17. The use as claimed in claim 15 or claim 16 wherein ingestion of the composition increases the level of glutathione in the blood or tissue of the animal.

18. The use as claimed in any one of claims 15 to 17 wherein ingestion of the composition avoids or reduces the risk of diseases or disorders associated with oxidative stress.

19. The use as claimed in claim 18 wherein the diseases or disorders associated with oxidative stress are selected from the group comprising cancer, inflammation, kwashiorkor (protein deficiency), seizure, autism, Down’s syndrome, chronic fatigue syndrome, Alzheimer’s disease, Parkinson’s disease, sickle cell anaemia, liver disease, cystic fibrosis, HIV, AIDS, infection, heart attack, stroke, and diabetes.

20. The use as claimed in any one of claims 15 to 17 wherein ingestion of the composition avoids or reduces the effects of aging, promotes the recovery of tissue following physcial exercise, or promotes fertility.

21. The use as claimed in any one of claims 15 to 20 wherein the animal is a human, a dog, or a cat.

22. The use as claimed in any one of claims 15 to 21 wherein the beta-casein comprises at least 90% by weight A2 beta-casein.

23. The use as claimed in any one of claims 15 to 22 wherein the beta-casein comprises 100% A2 beta-casein.

24. The use as claimed in anyone of claims 15 to 23 wherein the composition is milk powder, liquid milk reconstituted from powder, skim milk, homogenised milk, condensed milk, evaporated milk, pasteurised milk, or non-pasteurised milk, cream, yoghurt, quark, cheese, butter, ice cream, infant formula, an adult nutritional product, a protein supplement, or a petfood.

25. A composition as claimed in any one of claims 14 to 24 wherein the milk is obtained by genotype testing or phenotype testing of bovine cows, and milking only those cows which have been determined to produce only the A2 type of beta-casein in their milk.

26. A composition as claimed in claim 25 wherein a herd of cows is formed comprising only those cows which have been determined to produce only the A2 type of beta-casein A2 in their milk and then milking one or more cows of the herd.