Claims

1. The use of a mussel adhesive protein (“MAP”) in the manufacture of a composition for the treatment or prevention of melanin pigmentation,

wherein the MAP comprises mytilus edulis foot protein 1 (“mefp-1”) ; and

wherein the melanin pigmentation is selected from the group: chloasma, freckles, melanosis, chromatosis.

2. The use according to any one of claim 1, wherein the MAP concentration in the composition is 0.1-15.0 mg/mL.

3. The use according to any one of claims 1-2, wherein the MAP composition is a liquid formulation, a gel formulation, a lotion, a paste, a therapy patch, or a foam formulation.

4. The use according to any one of claims 1-3, wherein MAP in the composition is in a range of pH 1.0-7.0, and in particular, in a range of pH 3.0-6.5.

5. The use according to any one of claims 1-4, wherein the melanin pigmentation comprises melanoma or chromatosis caused by exposure to the sun or a skin disease.

6. The use according to any one of claims 1-5, wherein the composition comprising the specific MAP sub-types is combined with an enzyme in the treatment or prevention of chloasma, freckles, melanosis and chromatosis.

7. The use according to claim 1-6, wherein the MAP composition is to be used directly or after a micro-wound surface is created first.

8. The use according to claim 7, wherein the micro-wound surface is to be created by a micro-needle, a rolling needle or a laser.

9. The use according to any one of claims 4-8, wherein the enzyme is selected from: trypsin; a collagenase; a caseinase; chymotrypsin; a carboxypeptidase; a ceratinase; a enterokinase or rennet.

10. The use according to claim 9, wherein the enzyme is trypsin.

11. The use according to any one of claims 6-10, wherein the treatment with the combination of MAP composition and an enzyme comprises:

(a) the enzyme is to be sprayed first to decompose the corneous layer on the skin surface, the enzyme is to be sprayed again, and then the MAP is to be sprayed;

(b) MAP is to be sprayed first, and then the enzyme is to be sprayed; mixing MAP with the enzyme and then the mixture is to be sprayed for use; or

(c) the enzyme is to be sprayed first, and then the MAP is to be sprayed.

12. The use according to claim 11, wherein the MAP composition and the enzyme are provided in different packages.

13. The use according to any one of claims 6-12 wherein the MAP composition is provided in the form of a mixture of hydrolyzed MAP peptides; or the form of a single hydrolyzed MAP peptide.

14. The use according to any one of claims 6-13, wherein the molar ratio of MAP to the enzyme is in the range of 0.1:1-100:1.

15. The use according to claim 14, wherein the molar ratio is in the range of 1:1-50:1.

16. The use according to any one of claims 1-15, wherein the composition is suitable for external skin application.

17. The use according to any one of claims 1-16 wherein the composition is a medicine or a healthcare product.