Claims:

1. A process to form a salt enhancing ingredient comprising the steps of
(i) forming an aqueous slurry of Apium graveolens plant material, and
(ii) forming a hydrolysate of Apium graveolens plant material by subjecting it to an enzymatic hydrolysis using one or more proteolytic enzymes.

2. The process of claim 1, wherein the formed salt enhancing ingredient is inactivated by heating.

3. The process of any one of claims 1 to 2 wherein the one or more proteolytic enzymes are selected from the group consisting of proteinase, peptidase, and glutaminase.

4. The process of any one of claims 1 to 3 wherein the one or more proteolytic enzymes comprise both endopeptidase and exopeptidase activity.

5. The process of any one of claims 1 to 4 wherein the one or more proteolytic enzymes comprise an enzyme preparation from *Aspergillus oryzae* (Umamizyme™) and the hydrolysis is performed at 40°C to 60°C.

6. The process of any one of claims 1 to 5 wherein the hydrolysate is formed by subjecting the Apium graveolens plant material to an enzymatic hydrolysis using one or more carbohydrase enzymes in parallel or subsequent to enzymatic hydrolysis by the one or more proteolytic enzymes.

7. The process of any one of claims 1 to 6 wherein the hydrolysate is subjected to fermentation using a *Lactobacillus.*

8. The process of claim 7 wherein the *Lactobacillus* microorganism is selected from the group consisting of *L. plantarum*, *L. casei*, *L. brevis* and *L. helveticus.*

9. The salt enhancing ingredient formed by the process of any one of claims 1 to 8.

10. The salt enhancing ingredient of claim 9 which is concentrated at least 1.5 times by removing water.

11. The salt enhancing ingredient of any one of claims 9 to 10 wherein the salt enhancing ingredient is spray-dried.

12. A flavor composition for food products comprising the salt enhancing ingredient of any one of claims 9 to 11 and one or more food grade excipient.

13. The flavor composition of claim 12 wherein the concentration of the salt enhancing ingredient of claim 9 is 0.02% to 0.3% (wt/wt) based on the unconcentrated salt enhancing ingredient.

14. A food product comprising the salt enhancing ingredient of any one of claims 9 to 11.

15. The food product of claim 14 wherein the concentration of the salt enhancing ingredient of any one of claims 9 to 11 is 0.001% to 0.015% (wt/wt) based on the unconcentrated salt enhancing ingredient.

16. The food product of any one of claims 14 to 15 which is a reduced or low sodium food product.

17. The food product of claim 16 wherein the sodium chloride concentration is 0.15% (wt/wt) to 3% (wt/wt).

18. The food product of claim 16 wherein the sodium chloride concentration is 0.15% (wt/wt) to 1.5% (wt/wt).

19. The reduced or low sodium food product according to any one of claims 16 to 18 additionally comprising KCl, optionally comprising KCl in a concentration of 0.1% to 2% (wt/wt) KCl.

20. A method of providing a food product enhanced in saltiness wherein the salt enhancing ingredient as defined in any one of claims 9 to 11 is admixed to a food product.

21. The method of claim 20 wherein the food product is a reduced or low sodium food product optionally containing KCl, optionally comprising KCl in a concentration of 0.1% to 2% (wt/wt) KCl.

Claims

1. A process of forming a salt-enhancing ingredient comprising the steps of

   (i) forming an aqueous slurry of *Apium graveolens* plant material,
   (ii) forming a hydrolysate of *Apium graveolens* plant material by subjecting it to an enzymatic hydrolysis using one or more proteolytic enzymes;
   (iii) subjecting the *Apium graveolens* plant material to an enzymatic hydrolysis using one or more carbohydrase enzymes in parallel or subsequent to enzymatic hydrolysis by the one or more proteolytic enzymes; and subjecting the hydrolysate of the *Apium graveolens* plant material to fermentation with a *Lactobacillus* bacterium selected from the group consisting of *Lactobacillus plantarum, Lactobacillus casei, Lactobacillus brevis and Lactobacillus helveticus* at a temperature from 20°C to 40°C.

2. The process of claim 1, wherein the one or more enzymes and *Lactobacillus* bacterium in the formed salt-enhancing ingredient are inactivated by heating.

3. The process of claim 1 or claim 2 wherein the one or more proteolytic enzymes are selected from the group consisting of a proteinase, a peptidase, and a glutaminase.

4. The process of any one of claims 1 to 3 wherein the one or more proteolytic enzymes comprise both endopeptidase and exopeptidase activity.

5. The process of any one of claims 1 to 4 wherein the one or more proteolytic enzymes comprise an enzyme preparation from *Aspergillus oryzae* and the hydrolysis is performed at 40°C to 60°C.

6. The salt-enhancing ingredient obtainable by the process of claim 1.

7. The salt enhancing ingredient of claim 6 which is concentrated at least 1.5 times by removing water.

8. The salt enhancing ingredient of claim 6 or claim 7 wherein the salt enhancing ingredient is spray dried.

9. A flavor composition for food products comprising the salt-enhancing ingredient of any one of claims 6-8 and one or more food grade excipients wherein the concentration of the salt enhancing ingredient is 0.02% to 0.3% (wt/wt) based on the unconcentrated salt enhancing ingredient.

10. A food product comprising the salt-enhancing ingredient of any one of claims 6-8 wherein the concentration of the salt enhancing ingredient is 0.001% to 0.015% (wt/wt) based on the unconcentrated salt-enhancing ingredient.

11. The food product of claim 10 which is a reduced or low sodium food product.

12. The food product of claim 11 wherein the sodium chloride concentration is 0.15% (wt/wt) to 3% (wt/wt).

13. The reduced or low sodium food product according to claim 11 or claim 12, additionally comprising KCl, optionally comprising KCl in a concentration of 0.1% to 2% (wt/wt) KCl.

14. A method of providing a food product enhanced in saltiness wherein the salt-enhancing ingredient as defined in any one of claims 6-8 is admixed to a food product.

15. The method of claim 14 wherein the food product is a reduced or low sodium food product optionally comprising KCl, optionally comprising KCl in a concentration of 0.1 % to 2% (wt/wt) KCl.