CLAIMS

1. Method for producing a demineralised milk protein composition, characterised in that it comprises at least the steps of:

- preparing (2, 3, 5, 7, 9, 10, 12) or providing a milk protein composition (1, 1a, 1b),
- ultrafiltration (15) of said milk protein composition (1),
- nanofiltration (17) of the ultrafiltration retentate (16) obtained in the preceding step, and
- electrodialysis (19) of the nanofiltration retentate (18) obtained in the preceding step,

said method being free of any step that involves passing over ion-exchange ions.

2. Method according to claim 1, characterised in that the ultrafiltration retentate (16) has a total nitrogenous substance content at least equal to 14% of dry extract.

3. Method according to any one of claims 1 and 2, characterised in that the milk protein composition (1) is cheese whey (13).

4. Method according to claim 3, characterised in that the cheese whey (13) comes from organic farming.

5. Method according to any one of claims 1 and 2, characterised in that the milk protein composition (1) comes from a method comprising at least the steps of:

- provision of raw milk (2),
- creaming (3), heat treatment (5) and bacterial purification (7) of said raw milk (2),
- microfiltration on milk membrane (10) obtained in the preceding step, and
- recovery of the microfiltration permeate (11) forming the milk protein composition (1a).

6. Method according to claim 5, characterised in that the microfiltration on milk membrane (10) has a porosity of between 0.1 and 0.2 micrometres.

7. Method according to any one of claims 5 and 6, characterised in that the raw milk (2) comes from organic farming.

8. Demineralised milk protein composition obtained by the method according to any one of the claims 1 to 7, characterized in that the ratio between calcium and phosphorus contents is more than 0.65 and in that the ash content is less than 1% of dry extract and in that it has a percentage of native proteins in relation to the total proteins which is more than 85.

9. Demineralised milk protein composition according to claim 8, characterised in that it comprises:

- calcium at a content less than 11 milligrams per gram of total nitrogenous substance,
- sodium at a content less than 5 milligrams per gram of total nitrogenous substance,
- magnesium at a content less than 3 milligrams per gram of total nitrogenous substance,
- potassium at a content less than 5.5 milligrams per gram of total nitrogenous substance,
- chloride at a content less than 1.7 milligrams per gram of total nitrogenous substance, and
- phosphorus at a content less than 8.5 milligrams per gram of total nitrogenous substance.

10. Demineralised milk protein composition according to any one of the claims 8 and 9, characterised in that it comprises:

- calcium at a content less than 7.7 milligrams per gram of total nitrogenous substance,
- sodium at a content less than 3.65 milligrams per gram of total nitrogenous substance,
- magnesium at a content less than 2.15 milligrams per gram of total nitrogenous substance,

- potassium at a content less than 3.70 milligrams per gram of total nitrogenous substance,

- chloride at a content less than 1.5 milligrams per gram of total nitrogenous substance, and

- phosphorus at a content less than 7.7 milligrams per gram of total nitrogenous substance.

~~11. Demineralised milk protein composition according to claim 8, characterised in that it has a percentage of native proteins in relation to the total proteins which is more than 85.~~

~~12.~~11. Demineralised milk protein composition according to any one of the claims 8 to ~~11~~ 10, characterised in that it has a percentage of native proteins in relation to the total proteins which is more than 90.

~~13.~~12. Demineralised milk protein composition according to any one of the claims 8 to 11 ~~and 12~~, characterised in that the clustering rate of α-lactalbumin protein in said composition is less than 5%.

~~14.~~13. Demineralised milk protein composition according to claim 8, characterised in that the average diameter of type D4,3 of particles of said composition is less than 0.3 micrometres.

~~15.~~14. Demineralised milk protein composition according to claim ~~14~~13, characterised in that the average diameter of type D4,3 of particles of said composition is less than 0.2 micrometres and in that at least 40% of particles in the volume have a size less than 0.15 micrometres.

~~16.~~15. Use of a demineralised milk protein composition according to any one of the claims 8 to ~~15~~14, wherein said demineralised milk protein composition is used as an ingredient for developing a baby milk.

~~17.~~16.Use according to claim ~~16~~15, characterised in that the baby milk comes from organic farming.