CLAIMS

1. A method for preparing an isolate of cationic whey proteins comprising the following steps a) to f):

a) the starting raw material is a mammalian skimmed milk or a whey from mammalian milk previously concentrated by a membrane technology such that, when the starting raw material is prepared with a mammalian skimmed milk, the concentration of protein material PM is between 40 and 72 g/L and, when the starting raw material is prepared with whey, the concentration of protein material is between 20 and 100 g/L;

b) selectively extracting cationic proteins comprising the following steps:

i. passing the starting raw material through a radial flow chromatography column, containing strong cation exchange resins of the sulphopropyl SP type, preferably with a diameter greater than 100 µm:

- the volume of starting raw material, equivalent to the unconcentrated one, is between 40 and 500 times the volume of the resins BV;
- the linear speed of the starting raw material passage is between 1.0 and 4.0 m/h;

ii. rinsing with demineralised water:

- the volume of demineralised water is between 2 and 6 BV;
- the demineralised water passage speed is between 3.0 and 5.0 m/h;

iii. eluting the bound cationic proteins with a saline solution with an electrical conductivity between 30 and 50 mS/cm:

- the volume of the saline solution is between 4 and 8 BV;
- the passage speed of the saline solution is between 0.3 and 2.0 m/h;

iv. eluting the bound cationic proteins with a saline solution with an electrical conductivity of 80 to 140 mS/cm:

- the volume of the saline solution is between 3 and 6 BV;
- the passage speed of the saline solution is between 0.5 and 2.5 m/h;

c) concentrating the cationic proteins with high purity lactoferrin eluted in the saline solution using an ultrafiltration membrane with a cutoff threshold between 10 and 20 kDa;

d) demineralizing the cationic proteins with high purity lactoferrin by a diafiltration with demineralised water using an ultrafiltration membrane with a cutoff threshold between 10 and 20 kDa to achieve an ash/protein ratio between 0.001 and 0.03;

e) micro-filtrating with a membrane with a cutoff threshold between 0.2 and 1.4 µm of the concentrated solution of specific cationic proteins to reduce the microbial load;

f) optionally, spray drying or freeze drying the concentrated solution of specific cationic proteins previously microfiltered to obtain a powdered lactoferrin isolate.

2. The isolate of cationic whey proteins from cow's milk or goat's milk obtained by the method according to claim 1, characterised in that the proportion of lactoferrin on the total proteins is higher than 95% by weight and containing a cobalamin in complex form with transcobalamin at a concentration lower than or equal to 5 µg/g of proteins.

3. The isolate of cationic whey proteins from cow's milk or goat's milk obtainable by the method according to claim 1, characterised in that the proportion of lactoferrin on the total proteins is higher than 90% by weight and containing a cobalamin in complex form with transcobalamin at a concentration higher than or equal to 5 µg/g of proteins.

4. The isolate of cationic whey proteins according to claim 3, for its use in the prevention and/or the treatment of a vitamin B12 deficient absorption in patients who have undergone gastrectomy or chronically treated with proton pump inhibitors PPI.

5. A food product for human or animal consumption comprising an isolate according to any of claims 2 to 3.

6. A non-food product comprising an isolate according to any of claims 2 to 3.