Fractionation of Whey Proteins by Complex Formation

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing an improved method of separating whey proteins from solutions of whey protein concentrate.

Overview

Whey is a special byproduct obtained in the dairy industry during cheese processing. There is a growing interest in whey proteins because of their high nutritive value, the functional properties of their different fractions and their use in a variety of food products. Current fractionation methods have various drawbacks on an industrial scale, due to the cost of isolation and the availability of cheaper substitutes such as egg albumin.

The Invention

UW-Madison researchers have developed an efficient and cost-effective method of separating whey proteins from solutions of whey protein concentrate by complexing them with polysaccharides. The process yields at least a 95 percent pure alpha-lactalbumin fraction and a 90 percent pure beta-lactoglobulin fraction.

Applications

- Isolated whey proteins may be used as functional ingredients in foods, in the introduction of new products and as a cheaper alternative to egg albumin.
- One isolate, alpha-lactalbumin, may be used as a whipping agent to maintain foam structure.
- Another isolate, beta-lactoglobulin, may be used as an emulsifier to stabilize fat and water mixtures.

Key Benefits

- Inexpensive method for isolating whey proteins with high purity
- Beneficial to cheese makers, who normally discard a large portion of the whey generated in the process of making cheese
- Most cheese plants already have the necessary equipment for isolating whey proteins.

Tech Fields

- Animals, Agriculture & Food : Food ingredients & additives
- Animals, Agriculture & Food : Food processing

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842