CDR TURBO

Seeking a Company Interested in the Commercialization of a Process to Produce a Highly Functional,

"Gold Standard" Beta-Casein (Milk Protein)

The Center for Dairy Research (CDR) (www.cdr.wisc.edu) is seeking a company interested in adapting beta-casein separation for commercial purposes. CDR's patent pending methodology is the first in the industry to achieve this type of separation at commercial production levels. If you are interested in making this type of ingredient, or if your company is currently using sodium caseinate or non-protein emulsifiers, please contact CDR for more information. We encourage you to find out more about how your company can benefit from working with CDR.

Technology

Beta-casein was not a viable ingredient option for many years as the technology to produce beta-casein for large scale, commercial applications was simply not available. However, CDR researchers have now developed a method for separating beta-casein from milk allowing it to be used for commercial applications. The process uses a polymeric microfiltration membrane to form a permeate enriched beta-casein. During the process, the milk must be cooled to at least 40 degrees Fahrenheit in order to separate the beta-casein from the other caseins. Partial demineralization of the permeate allows for the removal of soluble beta-casein from the whey proteins in the permeate. While isolated beta-casein can be used as a dairy ingredient, studies also show that cheese produced with beta-casein diminished milk may actually have enhanced meltability, reduced bitterness and the cheese may age more quickly.

Functional/Nutritional Benefits

Beta-casein is the primary casein in human milk and thus it would be an ideal ingredient for use in infant formula. Beta-casein is often referred to as the "gold standard" of emulsifiers and foaming agents. A superior substitute for imported sodium caseinate, beta-casein offers the benefits of bioactive peptides and proteins while also assisting in applications requiring foaming and emulsification. In contrast to caseinate, no chemical acidification or neutralization is involved. Potential applications include using beta-casein as a food ingredient or a coffee whitener. The superior functionality of beta-casein could also allow for lower usage levels in applications needing emulsification or foaming.

Economic Benefits

Currently a significant portion of sodium caseinate is imported into the United States. By using the CDR process outlined above, domestically produced beta-casein can replace sodium caseinate in the marketplace.

There are two market opportunities here; the manufacturing process and the actual ingredient you derive from the process. Those already processing milk will be able to add the manufacture of beta-casein to their line as an additional value-added ingredient.

Applications

- Functional food ingredient
- Coffee whitener
- Can be used as a substitute for any product that currently uses sodium caseinate
- Whipping and foaming applications
- Infant formula
- Pharmaceuticals

Pro's and Con's

Beta-caseins have excellent foaming and emulsification properties when used in an application. They can be removed from milk without contamination of the milk or beta-casein. Whole milk or skim milk can be used. An ideal partner must have access to or the ability to obtain microfiltration equipment. A complimentary partner would include a larger cheese plant that produces non-standard of identity cheeses, or a facility producing milk protein concentrates.

How can CDR help me?

CDR is an internationally known dairy research center and the largest within the United States. Access to world class food scientists/technologists, and a licensed, "operating" dairy plant along with CDR's client confidentiality commitment provides applied research results at a minimal costs. This technology is currently available for licensing from Wisconsin Alumni Research Foundation - WARF CDR will assist in this adoption for a nominal fee.

For further information, please contact Vic Grassman, Manager - Technology Commercialization at 608-512-6661 | vgrassman@cdr.wisc.edu

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