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pea protein hydrolysate as fat replacer

A computational method for predicting protein function accelerates drug discovery and research by rapidly determining protein behavior.

Researchers at Purdue have developed a hydrolysis product from pea protein that can function as a fat replacer in food applications. Protein-based fat replacers are increasing in popularity due to their low-calorie nature and customers' preference on high protein foods. However, their fabrication requires large energy input which can limit their applications in food. To fill that gap, Purdue researchers developed a pea protein hydrolysate that reduces the fat content and total calorie intake while maintaining a creamy texture. In addition, the foods that relied on this product as an ingredient took less energy/time to synthesize than they would have otherwise.

Technology Validation: Pea protein isolates (PPI) were hydrolyzed with mild heating to form aggregates as a fat replacer. Protein aggregates were added to skim milk at various concentrations (0.1, 0.3, 0.5%) to develop fat-free cream cheese with desirable textural properties.

Advantages:

-Mimics fat

-Reduces fat

-Takes less energy and time to synthesize food

Applications:

-Plant-based meat and dairy

-Food synthesis

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