

## Pea protein as fat replacer

**Pea protein hydrolysate functions as a low-calorie fat replacer, creating fat-free foods with a creamy texture while reducing synthesis time and energy consumption.**

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

Publication:

[https://www.sciencedirect.com/science/article/abs/pii/S0268005X23008639?  
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### Category

Biotechnology & Life  
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Biomanufacturing  
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