

A2 Milk Is Not Always the Best Option for Milk-sensitive Individuals

TURKU, FINLAND, September 29, 2025 /EINPresswire.com/ -- A recent Finnish study investigated the effects of A2 milk, marketed as a gut-friendly alternative, and protein-hydrolysed lactose-free milk on gastrointestinal symptoms and inflammation levels. The study found that protein-hydrolysed lactose-free milk was as tolerated as A2 milk by lactose-tolerant individuals and better tolerated by lactose-intolerant individuals.

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Milk and milk products are nutritionally and culturally major components of the Western diet, so it is important to continue to study their impact on gastrointestinal symptoms.”

Professor Kaisa Linderborg

The best-known cause of milk-induced gastrointestinal symptoms is lactose intolerance, which is an inability to digest lactose, a sugar found in dairy products. However, many people experience gut symptoms when ingesting milk and avoid dairy products even though they are lactose-tolerant according to their genotype.

Cow's milk products sold in Finland typically contain both A1 and A2 beta-casein proteins. However, some cows

naturally produce only A2 beta-casein, and their milk has long been available globally as a separate product. This A2 milk is marketed as a gut-friendly alternative to regular A1A2 milk, even though previous research on the symptoms caused by A2 milk has, for example, neglected the role of lactose as a cause of symptoms.

In addition to the lactose content and the type of beta-casein in the milk, the partial break down of milk proteins during processing called hydrolysis can affect how the gut reacts to milk.

A recent clinical study conducted at the Food Sciences Unit of the [University of Turku](#) in Finland investigated the effects of A2 milk and protein-hydrolysed lactose-free A1A2 milk on gastrointestinal symptoms and inflammation in people who experience gut symptoms from milk. In the study, lactose-tolerant and lactose-intolerant participants were divided into two groups, and the symptoms of each group were monitored separately during the trial periods of the different milk alternatives.

Least Stomach Symptoms Were Observed with Lactose-free Protein Hydrolysed A1A2 Milk

The results of the study show that breaking down milk proteins is a promising method for people who are sensitive to milk, as A2 milk and protein-hydrolysed A1A2 milk caused equally less

stomach symptoms for lactose-tolerant individuals. In contrast, lactose-intolerant participants had a clear increase in gut symptoms when the lactose content in the milk increased.

"Of the milks investigated in our study, the lactose-free, protein-hydrolysed A1A2 milk was the best milk choice for lactose-intolerant people, and it was at least as stomach-friendly as A2 milk for those who can tolerate lactose," says Principal Investigator Kaisa Linderborg, Professor of Molecular Food Sciences at the University of Turku.

However, some participants got gastrointestinal symptoms from all types of milk, and also during the research period when they were entirely without dairy products. The researchers found no differences in inflammatory markers, such as high-sensitivity CRP and faecal calprotectin, between the dairy-free diets and the different milks. In addition, no significant changes were observed in the levels of individual cytokines.

"This was the third study conducted in our unit on milk-related gastrointestinal symptoms. We found the same challenge as with the previous studies, namely that milk is not the only cause of gut symptoms, but that there are usually also other factors behind them. This time, however, the genotyping of the participants by lactase enzyme and the partial protein hydrolysis added novelty to the study," says Linderborg.

The study had 36 participants. Participants were divided into two groups based on their lactase enzyme genotype, which allowed the researchers to study the groups according to their lactose tolerance. The study was conducted as a randomised, three-leg, crossover trial, with participants completing all the study periods in a random order. The participants started with a wash-out of milk-free week for baseline measurements, and continued with study periods of consuming regular A2 milk, A2 milk with lactase enzyme, and lactose-free protein hydrolysed A1A2 milk. In the study, the researchers examined gastrointestinal symptoms, faecal calprotectin, and plasma inflammation markers. During the study periods, the participants avoided other dairy products and gave blood and stool samples after each period.

"We would have liked to include, for example, a lactose-containing A1A2 milk and a dairy-free option as controls, but it was not possible this time. In such long nutrition studies, participants must be highly motivated to complete the study," says Professor Linderborg.

The lack of an answer to the symptoms of lactose-tolerant participants indicates a great diversity in the cause and experience of gut symptoms. The results highlight the importance of individual lactose tolerance and suggest that gut symptoms may be caused by several factors, even if they are perceived to be caused by a single food group. The study provides new insights into the source of diet-induced gastrointestinal symptoms and may help in the development of dairy products for sensitive consumers.

"Milk and milk products are nutritionally and culturally major components of the Western diet, so it is important to continue to study their impact on gastrointestinal symptoms," Linderborg

concludes.

The results were published in September in the peer-reviewed [Journal of Dairy Science](#).

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