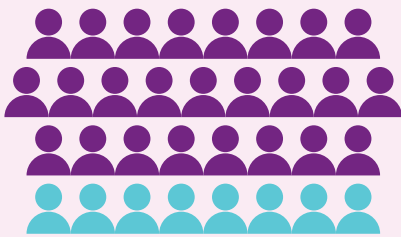


# A 2020 TRIAL REPORTS CONSUMPTION OF MILK CONTAINING A2 BETA-CASEIN ONLY IS ASSOCIATED WITH FEWER GI SYMPTOMS THAN CONSUMPTION OF CONVENTIONAL MILK IN LACTOSE MALDIGESTERS



33 American adults, of various races and ethnicities, with lactose maldigestion, 25 of whom were confirmed as lactose intolerant (LI) via Qualifying Lactose Challenge Symptom Score, participated in a randomized, double-blind, crossover trial. The trial involved consuming a single dose of four types of milk;

**A2  $\beta$ -casein only**  
100% A2  $\beta$ -casein

**Jersey milk**  
25% A1  
75% A2  $\beta$ -casein

**Conventional milk**  
75% A1  
25% A2  $\beta$ -casein

**Lactose free milk**  
40% A1  
60% A2  $\beta$ -casein as the negative control



Subjects consumed each milk after an overnight fast, in random order, with at least 6 days in between. The volume of each milk consumed provided 0.5g lactose/kg.

When all maldigesters (including LI and non-LI subjects) consumed A2  $\beta$ -casein only milk, combined total symptoms scores for abdominal pain, bloating, flatulence, and diarrhoea showed fewer symptoms ( $p=0.04$ ) compared with conventional milk. Jersey milk did not reduce gastrointestinal symptoms, compared with conventional milk.

Total breath hydrogen (a marker of lactose maldigestion) produced was also significantly lower following A2  $\beta$ -casein only milk compared with conventional milk.



Investigate  
Communicate  
Collaborate

# Milk Containing A2 $\beta$ -Casein ONLY, as a Single Meal, Causes Fewer Symptoms of Lactose Intolerance than Milk Containing A1 and A2 $\beta$ -Caseins in Subjects with Lactose Maldigestion and Intolerance: A Randomized, Double-Blind, Crossover Trial

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## Abstract

Acute-feeding and multiple-day studies have demonstrated that milk containing A2  $\beta$ -casein only causes fewer symptoms of lactose intolerance (LI) than milk containing both A1 and A2  $\beta$ -caseins. We conducted a single-meal study to evaluate the gastrointestinal (GI) tolerance of milk containing different concentrations of A1 and A2  $\beta$ -casein proteins. This was a randomized, double-blind, crossover trial in 25 LI subjects with maldigestion and an additional eight lactose maldigesters who did not meet the QLCSS criteria. Subjects received each of four types of milk (milk containing A2  $\beta$ -casein protein only, Jersey milk, conventional milk, and lactose-free milk) after overnight fasting. Symptoms of GI intolerance and breath hydrogen concentrations were analyzed for 6 h after ingestion of each type of milk. In an analysis of the 25 LI subjects, total symptom score for abdominal pain was lower following consumption of milk containing A2  $\beta$ -casein only, compared with conventional milk ( $p = 0.004$ ). Post hoc analysis with lactose maldigesters revealed statistically significantly improved symptom scores ( $p = 0.04$ ) and lower hydrogen production ( $p = 0.04$ ) following consumption of milk containing A2  $\beta$ -casein only compared with conventional milk. Consumption of milk containing A2  $\beta$ -casein only is associated with fewer GI symptoms than consumption of conventional milk in lactose maldigesters.