A2 beta-casein is the original beta-casein protein gene. A mutation caused the A1 protein to appear a few thousand years ago.

1. Milk herd carrying genes for both beta-casein protein types

2. Regular milk containing both beta-casein protein types is ingested


4. BCM-7 binds to opioid receptors present throughout the body. In the gut, BCM-7 can trigger inflammation and intestinal transit time delay, and consequently gastrointestinal symptoms in some people.

5. a2 Milk™ from purely A2 type beta-casein gene carrying herds

In some patients with gastrointestinal discomfort following commercial milk intake, avoiding the A1 protein may make the difference.
References:


The two major proteins in milk are casein and whey. Casein accounts for about 80 percent of the protein in milk. There are also different types of casein, one of which is called beta-casein. Beta-casein makes up about 30 percent of the protein in cow’s milk. This company provides milk from cows that only produce the A2 protein. The a2 Milk Company test the DNA of their cows by using a hair sample, to ensure the animals only produce milk that contains A2 protein. The company test the milk after production, as well, to ensure it does not contain A1 protein. Benefits. A1 beta-casein milk protein and other environmental predisposing factors for type 1 diabetes. Nutrition & Diabetes, 7, e274 https://www.nature.com/nutd/journal/v7/n5/full/nutd201716a.html#bib54. Milk from dairy cows contains high-quality protein, including casein and whey. Approximately one-third of the protein in regular cows’ milk is beta-casein, which may include both A1 and A2 beta-casein. Most milk on grocery store shelves is a blend of both the A1 and A2 beta-casein protein types. However, a2 Milk® comes from cows that only produce the A2 protein and no A1. While there’s no difference in taste between milk with A1 and A2 proteins versus A2 protein-only milk, the real difference is that research suggests that drinking milk with only the A2 protein may be easier on digestion and help some avoid discomfort. Finding Our Farms. When looking for cows that only produce the A2 protein, we start at the farm. The issue is around the type of casein protein that is found in milk from different breeds of cows. Some breeds might be better than others. Casein makes up about 80 percent of the protein in milk, and there are numerous varieties of it. Most milk comes from cows that have both A1 beta-casein and A2 beta-casein, but some breeds of cows provide only the A2 variety. One study suggested that the A1 beta-casein may increase the risk for heart and arterial health concerns, but this study was done with rabbits who are vegetarians and typically do not consume milk. (6) In one of the only human studies, there was no difference between the A1 and A2 beta-caseins on blood vessel function, blood pressure, blood fats and inflammatory markers. (4). At present, there is debate about the gastrointestinal effects of A1-type beta-casein protein in cows’ milk compared with the progenitor A2 type. In vitro and animal studies suggest that digestion of A1 but not A2 beta-casein affects gastrointestinal motility and inflammation through the release of beta-casomorphin-7. We aimed to evaluate differences in gastrointestinal effects in a human adult population between milk containing A1 versus A2 beta-casein. Subjects/methods: Forty-one females and males were recruited into this double-blinded, randomised 8-week cross-over study.