

What is A2 milk?
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There has been significant publicity lately regarding A2 milk. There have been some claims that A2 milk is healthier than regular milk. The A2 milk company says that they are just trying to help the dairy industry. What is true and what is good advertising? I will try to provide a summary of the current information available on this topic.

All milk contains protein and that is not anything new. It was determined long ago that an 8 ounce glass of milk contains 8 grams of protein. The 2 major types of protein are whey and casein. Casein accounts for roughly 80% of protein in milk. There are different types of casein and one type is beta-casein. Beta casein accounts for about 30% of the casein protein. A1 and A2 are the primary types of beta-casein found in milk. The difference between the two is structural and they are different by one amino acid. Currently, A1 and A2 casein are present in cow's milk around the world and all of the milk available for purchase at our favorite store will commonly contain both of these proteins. The ability to test the genotype of dairy cows for these proteins has led to the ability to select only cows that produce the A2 variant in their milk. The modern Holstein dairy cow today poses the genetics to produce A1 and A2 in roughly equal amounts. It is estimated that 50% Jersey breed carries the genetics to produce only the A2 variant. Other milk sources around the world (sheep, goat, donkey, yak, camel, buffalo) contain higher amounts of A2.

The literature suggests that the production of the A1 variant has been perpetuated by the desire of the dairy industry to select for higher milk production. We have continued to select for higher production levels, which has led us to indirectly select for the genotype that produces both A1 and A2 beta casein. The reason that many of the other animal species listed above have not increase the A1 variant is due to the lack of selection pressure on increased production.

There has been considerable debate since the 1980's in the United States about the potential detrimental health effects from drinking milk. The same scientific community also led the public to believe that eating eggs increased cholesterol to dangerous levels. Much of that bad science has been debunked recently. The change in knowledge regarding consumption of dairy products has led most dietary leaders to recommend dairy products and some even have gone so far to recommend drinking whole milk over 2% or skim. The relatively recent arrival of A2 milk on the scene and some of the marketing claims have served to further confuse the issue of milk in the diet of humans.

A2 marketing has focused on the health benefits of A2 milk. This marketing has led to the implication that A1 milk is not healthy. The U.S. consumer currently has very little knowledge regarding the science or lack thereof behind the marketing. At a time when there is too much milk on the market, we do not need consumers slowing further in the consumption of dairy products. The A2 Company was founded in New Zealand in 2000. The company has self-funded 90% of all the research that is quoted in current marketing strategies. A consumer should always be critical of self-funded research.

The most recent study was published in 2016. The study used common commercial milk that contains both the A1 and A2 milk proteins and compared to consuming milk containing only the A2 protein. The study used 45 people and all of these people had self-diagnosed intolerance to cow's milk in some form. Of the 45 people, 23 were diagnosed as lactose-intolerant. Someone who is lactose intolerant has an inability to digest lactose due to a deficiency in the lactase enzyme. It is important to note lactose is present in both A1 milk and A2 milk. A2 milk consumption is not going to help any one who is lactose intolerant.

The results of the study showed A2 milk did not cause an increase in unpleasant digestive symptoms (for example, bloating and flatulence) usually associated with milk consumption in those who are lactose-intolerant. When cow's milk containing both the A1 and A2 proteins was provided, there was an exacerbation of stomach upset. However, this would be expected for someone who is sensitive to dairy products, or lactose-intolerant. It is important to note that the scientific design of this study has led to results that cannot be interpreted accurately to the general population.

We really need better research that is conducted on a higher number of subjects and utilize some of the inflammation markers that are available now to determine if there may be some differences in some people which would provide a designated market for A2 milk. It is important to continue a positive message for A1 milk consumption. More milk consumption of all types will always be beneficial for the dairy industry bottom line.