Is a2 Milk® suitable for children?

In most cases, yes. However, children with a medically diagnosed allergy to cows' milk protein or lactose should not drink a2 Milk® or any ordinary cows' milk. Doctors recommend whole milk for children over 12 months and reduced fat 2% milk, including reduced fat a2 Milk®, for children over the age of two.

What is different between a2 Milk® and ordinary milk?

The key difference is in the type of cow, because different cows naturally produce milk with different proteins. All ordinary milk has a mixture of A1 and A2 proteins. Yet a2 Milk® only contains the A2 protein and no A1.

Research shows A1 and A2 are digested differently and many people who have issues drinking ordinary milk can easily enjoy milk if they drink a2 Milk®. They tell us it just feels better in their bodies.

Our farmers select cows that produce only A2 beta-casein. Then, they milk those cows separately. That a2 Milk® then goes through its own, special journey all the way to the pack you buy in the store, so you can rest assured it's never mixed in with milk containing A1.

Is a2 Milk® natural?

Yes. a2 Milk® is naturally occurring cows' milk; it's not a result of a technological process or genetic engineering. We simply select cows that produce only A2 protein.

Yes. a2 Milk® looks like ordinary milk, tastes like real and natural milk and contains the same amounts of calcium and other important minerals and nutrients as ordinary cows' milk. It might also interest you to know a2 Milk® has approximately 6 times the natural calcium levels of soy milk.

Yes. a2 Milk® is real, natural milk, and contains the same amount of lactose as ordinary cows' milk, so it's not an option for people who have been clinically diagnosed with lactose intolerance.

How does a2 Milk® compare to alternative milks – things like soy, almond and coconut milks?

Firstly, a2 Milk® is a completely real, and naturally occurring milk in every way. It contains about 6 times the natural levels of calcium as soy milk, approximately 8 times the natural protein levels of almond milk and 6 times the potassium levels of most rice milks.

Because of this many alternative milks are then fortified with additional vitamins and minerals like calcium and protein. However because the goodness in a2 Milk® is naturally occurring, these essential ingredients are more easily absorbed than with alternative manufactured milks.

What is beta-casein?

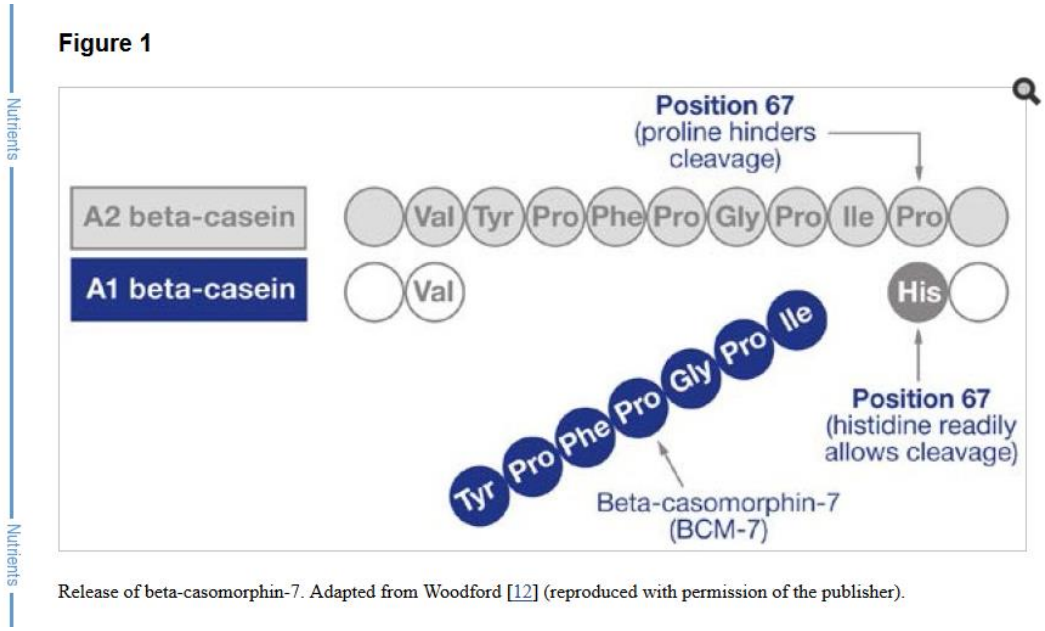
Beta-casein is a type of protein that makes up one third of the protein in milk. It is a high quality milk protein that is a source of essential amino acids, as well as peptides. It assists with natural calcium absorption.

Learn more about the differences between A1 and A2 beta-caseins

Beta-casein is a 209 amino acid protein that makes up about 30% of the total protein contained in milk (1), or roughly 2.5 grams per glass. Due to natural genetic variation, beta-casein can be present as one of two major types, A1 or A2. The single difference between these two types of beta-casein is an amino acid substitution at the 67th residue of the beta-casein protein chain. The subtle structural difference between these two beta-casein types means they are digested differently. The digestion of A1 beta-casein in the gut by the action of digestive enzymes can produce the exogenous opioid peptide called beta-casomorphin-7 (BCM-7) (2-5) (Figure 1). In contrast, A2 beta-casein releases none or minimal amounts of BCM-7 under normal gut conditions (3-6), because for A2 beta-casein "the enzymatic hydrolysis of the Ile66-Pro67 bond does not occur or occurs at a very low rate" (2).

hcp-explain3

Figure 1: Release of beta-casomorphin-7. Figure adapted from reference (5)



Release of beta-casomorphin-7. Adapted from Woodford [12] (reproduced with permission of the publisher).

Emerging research in humans and in-depth research in other animals suggest that A1 beta-casein feeding has the potential to stimulate symptoms of digestive discomfort. Most recently, a study published in the European Journal of Clinical Nutrition (2014) reported the results of the first human clinical trial comparing the effects of A1 and A2 containing milk on digestive symptoms. In this study, even patients who did not consider themselves “milk intolerant” reported fewer digestive complaints and firmer stools when drinking milk containing only the A2 protein. Two other animal studies have investigated A1 versus A2 beta-casein on gastrointestinal effects directly (7, 8). Barnett et al. (2014) showed that feeding rodents milk containing A1 beta-casein resulted in significantly delayed gastrointestinal transit time compared to milk containing A2 beta-casein (8), which may affect symptoms of digestive discomfort. In addition, Haq et al. (2013) showed in mice fed a milk free basal diet supplemented with A1 relative to A2 beta-casein that gut inflammation markers were increased significantly with A1 beta-casein whereas A2 beta-casein had no effect relative to control animals (7), effects which a follow up study by the same research group suggest may be mediated by BCM-7 (9). There have been various other animal studies which have examined the effects of BCM-7 on markers of digestive wellbeing. The results from such studies suggest that the opioid activity of BCM-7 is linked to the stimulation of mucous production and thickening from goblet cells in digestive tissue in rodents (10-12).

In human adults, Boutrou et al. (2013) have shown recently that bovine BCM-7 is produced in the intestines following milk casein protein intake in amounts sufficient to elicit a biological action (13). In human infants, studies have shown further that BCM-7 is absorbed into the circulation of formula-fed human babies (14, 15), where there appears to be variation in the ability to eliminate BCM-7 between babies and that this could be due to variable activity of the enzyme needed to break down BCM-7 (15). More recently, Sokolov et al. (2014) have detected BCM-7 in the urine of children (16).

While further research is needed to establish a cause-effect relationship between exposure to BCM-7 and non-communicable disease conditions, there is research to suggest that BCM-7 is linked to various unwanted physiological effects.

So the theory goes that by drinking milk from A1 cows, which are the predominant cows used for dairy products in the United States, you're exposed to BCM-7, which has been linked to:

Neurological impairment, including autistic and schizophrenic changes
Type 1 diabetes
An impaired immune response
Autoimmune disease
Heart disease

As many of you know, Dr. Mercola does not recommend drinking pasteurized milk of any kind because the pasteurization process, which entails heating the milk to a temperature of 145 degrees to 150 degrees F and keeping it there for at least half an hour, completely changes the structure of the milk proteins into something far less than healthy.

Pasteurized cow's milk is the number one allergic food in the United States. It has been associated with a number of symptoms and illnesses including:

Diarrhea, cramps, bloating and gas
Osteoporosis
Arthritis
Heart disease
Cancer
Recurrent ear infections and colic in infants and children
Type 1 diabetes
Rheumatoid arthritis
Infertility
Leukemia
Autism

The healthy alternative to pasteurized milk is raw milk, which is an outstanding source of nutrients including beneficial bacteria such as lactobacillus acidolphilus, vitamins and enzymes, and it is, in my estimation, one of the finest sources of calcium available.

Raw milk is generally not associated with any of the above health problems, and even people who have been allergic to pasteurized milk for many years can typically tolerate and even thrive on raw milk.

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