Investigate
Communicate
Collaborate

A Health Professional's Guide to a2 Milk®

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Why is dairy important?

According to the Australian Institute of Health and Welfare, more than 80% of Australians are not eating enough dairy foods.[1]

Whilst milk is widely recognised as an important source of calcium, it is not just calcium that a glass of milk provides. Milk and dairy foods contain a unique combination of macronutrients, including high-quality protein containing all of the essential amino acids. It also contains important micronutrients including calcium, phosphorus, magnesium, and vitamin B12, as well as bioactive components. The nutrient content, physical structure, and how these interact in dairy foods (specifically milk, yoghurt and cheese) is known as the 'Dairy Matrix'.

Current evidence suggests that the Dairy Matrix has specific beneficial effects on health due to the metabolic effects of whole dairy, differing from those of single dairy nutrients.[2]

In other words, the nutritional value and health benefits of dairy should not just be considered equivalent to the individual nutrients dairy supplies.

Throughout life, dairy foods play an important role in supporting growth, development and good health. It is widely recommended that young children, from the age of 1 year, should drink primarily water or cow's milk.[3,4]

This chart shows the recommended amounts of dairy to consume each day:[5]

Children up to 8 years old	**1½–2 serves**	
Older children & adolescents ages 8-18 years	**2½–3 serves**	
Younger adults ages 19-51 years	**2½ serves**	
Older adults, particularly women, ages 51+ years	**3½–4 serves**	

Standard serve = 1 cup (250ml) milk or 2 slices (40g) hard cheese, 1/2 cup (120g) ricotta cheese, 3/4 cup (200g) yoghurt.

Digestive discomfort, self diagnosed lactose intolerance, and myths surrounding milk may mean your patients and clients unnecessarily remove this important food altogether and consequently, miss out on key nutrients.

What is a2 Milk®?

a2 Milk® is pure and natural dairy milk. Our a2 Milk® comes from cows specially selected to naturally produce milk with only the A2 beta-casein protein.

Milk from dairy cows contains ample protein, including casein and whey. Approximately one third of protein in regular cows' milk is beta-casein which includes both A1 and A2 beta-casein.

There is a slight difference in the amino acid sequence of the A2 protein compared to the A1 protein, meaning there is also a slight difference in how the proteins are digested. Published research suggests that A2 protein is easier on digestion and may help some individuals to avoid digestive discomfort.[6,7,8,9] a2 Milk® contains only the A2 protein, unlike most regular cows' milk, which is a mix of A1 and A2 protein.

A1 and A2 protein refer to A1 and A2 beta-casein protein types

Why a2 Milk®?

For some people, dairy may be a source of digestive discomfort but they're not sure why. Whilst symptoms, including bloating, abdominal pain and flatulence, are often attributed to lactose intolerance, in some cases, it may be a sensitivity to the A1 beta-casein protein type. Drinking a2 Milk® has made it possible for many to enjoy milk.

A 2020 study of 33 American adults examined the effects that A1 and A2 proteins have on people who were confirmed lactose maldigesters. There was a reduction in combined total symptoms scores for abdominal pain, bloating, flatulence and diarrhoea in lactose maldigesters after consumption of a2 Milk® compared to regular milk containing both A1 and A2 beta-casein protein.[9]

Since a2 Milk® is 100% cows' milk, it is not appropriate for your patients and clients (including children) with a medically diagnosed cows' milk protein allergy

How was a2 Milk® discovered?

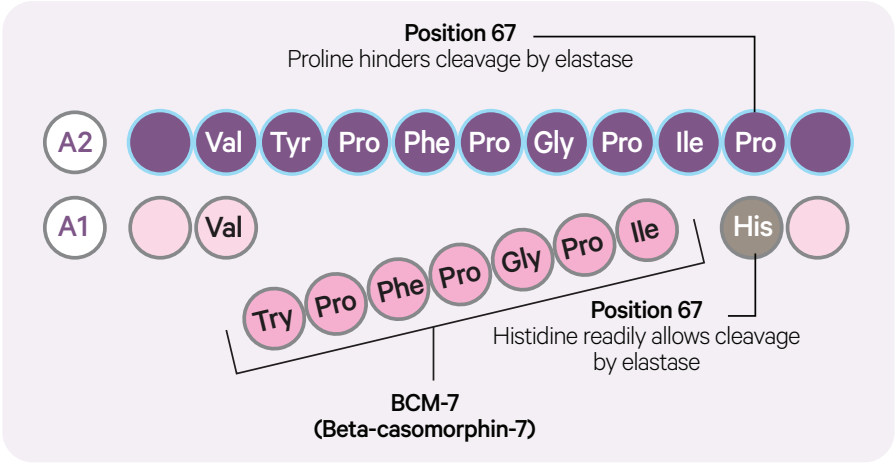
Not so long ago—the 1990s—a New Zealand scientist studying biochemistry at Cambridge University noticed that he and his family had difficulty digesting milk when in the UK, but didn't have the same troubles at home. That prompted him to start looking at milk proteins and how they affect people differently.

He learned that cows produce milk with two different beta-casein proteins—A1 and A2. He then discovered a safe and simple way to identify cows who produce milk that is naturally A1 protein free. The a2 Milk Company was founded in New Zealand in 2000 by scientist Dr Corran McLaughlan and his business partner Howard Paterson on the knowledge that not all milk is the same.

Originally, all cows produced only the A2 protein type and no A1. Yes, A2 is the original beta-casein protein. A1 was a natural mutation that occurred through modern farming practices in European herds and then spread throughout the world. Research over the years has demonstrated that some people who have digestive discomfort when drinking regular cows' milk are able to drink a2 Milk® with reduced symptoms. That's because a2 Milk® contains only the A2 protein and no A1.

The science behind a2 Milk®

Approximately one third of protein in cows milk is beta-casein which is comprised of both A1 and A2 beta-casein protein types. These have different outcomes upon digestion when compared to one another due to a slight difference in the amino acid sequence on the peptide chain.



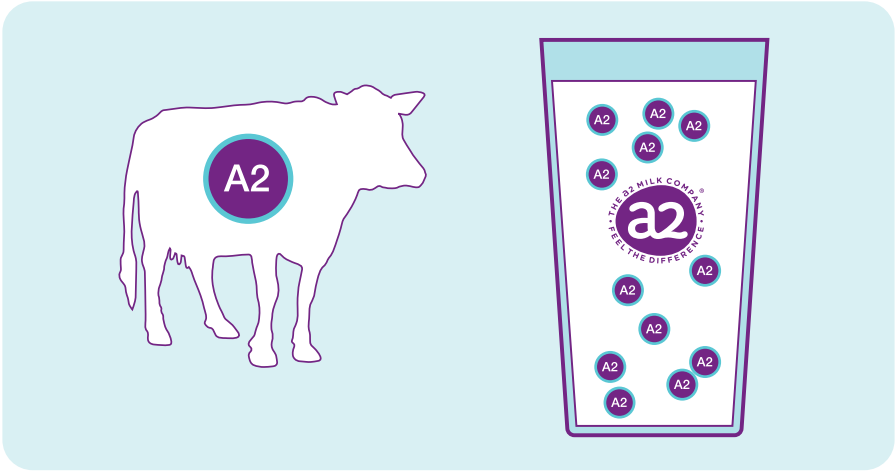
Recent studies indicate that A1 beta-casein preferentially releases the opioid peptide beta-casomorphin 7 (BCM-7) on digestion. In contrast, the structure of A2 minimises or limits the release of BCM-7 on digestion.[10]

A 2017 study reports milk-related gastrointestinal symptoms may result from ingestion of A1 beta-casein rather than lactose in some individuals[6]

600 Chinese subjects with self-reported lactose intolerance, 430 of whom were classified as lactose malabsorbers via a urinary galactose test, participated in a three-center, double blind, randomized, 2 x crossover trial that involved consuming a single dose of regular milk (containing both A1 and A2 beta-casein proteins) and a2 Milk® containing only A2 beta-casein protein.

When subjects consumed 300ml of regular milk with both A1 and A2 beta-casein with the effects being measured at 1, 3 and 12 hours, acute gastrointestinal symptoms increased in the majority of subjects, including in both lactose malabsorbers and lactose absorbers. When subjects, including those identified as lactose malabsorbers, consumed 300ml of a2 Milk®, acute gastrointestinal symptoms were significantly reduced in the majority of subjects.

Further, in a 2019 study of 75 Chinese children, aged 5-6 years, with mild-moderate milk discomfort or lactose intolerance, gastrointestinal symptom scores increased after consuming regular milk. In this study, replacing regular milk with a2 Milk® resulted in reduced gastrointestinal symptom scores associated with milk intolerance in many of these children, and also led to corresponding improvements in an aspect of cognitive performance.[8]



To read more, visit: **a2nutrition4professionals.com.au/key-scientific-references/**

How to introduce a2 Milk®?

Have your patients and clients follow these simple steps:

1. First step is to purchase a bottle of a2 Milk®.

2. For the next 5 days your patient or client will gradually increase the amount of a2 Milk® they use. Have them start with a small addition in coffee or tea, along with a meal or use a few tablespoons as an ingredient in recipes. Then gradually have them work their way up over a week to enjoying a cup of cold, refreshing a2 Milk®.

   During this reintroduction phase, the patient or client should avoid other regular dairy foods, such as cottage cheese, yoghurt, sour cream, ice cream, cows' milk cheeses, cheese powders, buttermilk and cream.

   Work with your patients and clients to determine their individual tolerance. Below is a suggested gradual reintroduction timeline, which can be modified as needed:

3. Encourage your patients and clients to try a2 Milk® in their favourite recipes that call for milk, or try one of ours at **www.a2milk.com.au/recipes**. a2 Milk® is used and measured just like any other milk in a recipe.

How do we get a2 Milk®?

There are 22 certified a2 Milk® dairy farms that produce pure and natural a2 Milk® from specially selected cows right across Australia.

Each cow on these farms has been selected, via a non-invasive DNA test, to produce milk with only the A2 protein and none of the A1 protein found in most regular cows' milk.

Sound Bites

If regular cows' milk gives you digestive discomfort then a2 Milk® may be an option. a2 Milk® is pure and natural cows' milk that contains only the A2 protein.

New a2 Milk® Lactose Free is now also available. With no A1 protein and no lactose, it's the ideal starting point for exploring milk intolerance. Plus it is Monash University Low FODMAP certified™.*

Try this delicious smoothie recipe for a healthy breakfast or snack! It uses a2 Milk® with only A2 protein.
www.a2milk.com.au/recipes/berry-smoothie

Drink real milk! Cows' milk is naturally packed with vitamins and minerals like riboflavin, B12, calcium & potassium. It's also a complete source of protein and a natural source of carbohydrates. Don't settle for substitutes from nuts or plants. If you think you can't drink cows' milk due to digestive discomfort, try a2 Milk®.

* Monash University Low FODMAP certification applies only to a2 Milk® Lactose Free, due to the absence of lactose. All other a2 Milk® products contain lactose, and for this reason, are not low FODMAP.

Frequently Asked Questions

Q: What is the difference between a2 Milk® and regular cows' milk?

A: Most regular cows' milk contains a combination of two main types of beta-casein protein, A1 and A2. a2 Milk® is special because it is an exception to this. What makes a2 Milk® different to regular cows' milk is the absence of the A1 protein. It is the A1 protein that many people seek to avoid by switching from regular cows' milk to a2 Milk®.

Q: Can I have a2 Milk® if I am lactose intolerant?

A: Studies have shown that some people who are lactose maldigesters, including some with clinically diagnosed lactose intolerance, may experience fewer symptoms of digestive discomfort after drinking a2 Milk® than after drinking regular cows' milk. However, some people with lactose intolerance, be it medically diagnosed or self-diagnosed, may still feel more confident consuming milk without lactose due to the severity of symptoms which they experience if they exceed their individual tolerance threshold. This may be particularly true for those who wish to enjoy larger daily volumes of cows' milk. a2 Milk® Lactose Free may assist some people to tolerate a larger volume of cows' milk.

Q: Is a2 Milk® suitable for a low FODMAP diet?

A: a2 Milk® Lactose Free is Monash University Low FODMAP certified™, due to the absence of lactose. All other a2 Milk® products contain lactose, and for this reason, are not low FODMAP.

References

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a2 Milk® Products

a2 Milk® Full cream

a2 Milk® Light

a2 Milk® No fat

a2 Milk® UHT

a2 Milk® Full cream milk powder

a2 Milk® Skim milk powder

a2 Milk® Lactose Free Full cream

a2 Milk® Lactose Free Light

MONASH UNIVERSITY LOW FODMAP CERTIFIED™

Please visit our healthcare professional website at **a2nutrition4professionals.com.au** for downloadable materials and additional information on a2 Milk®.

You can also contact us at **https://a2nutrition4professionals.com.au/contact-us/**

Monash University Low FODMAP Certified trade marks used under licence in Australia by The a2 Milk Company (Australia) Pty Ltd. One serve of these products can assist with following the Monash University Low FODMAP diet™. A strict low FODMAP diet should not be commenced without supervision from a healthcare professional.