Lactose Intolerance

Almost everyone is born with the ability to digest dairy products. But most people lose that ability as they age, becoming lactose intolerant.

Your Wellness Result

Jamie, based on your genetics, you are **not likely** to be lactose intolerant.

Your genetic result suggests that you are able to eat or drink dairy without experiencing digestive problems.

Tell us whether you experience lactose intolerance

What you can do

If you do experience indigestion when you consume dairy products, consider speaking with a healthcare professional to determine whether your symptoms may be caused by lactose intolerance or another condition.

Genetics and Lactose Intolerance

What does it mean to be lactose intolerant?

Dairy products like milk, yogurt, and cheese contain a type of sugar called lactose. Although dairy is a staple of many diets, at least 70% of adults worldwide have trouble digesting lactose.

The severity of lactose intolerance varies from person to person – some people can drink a full glass of milk without experiencing indigestion, while other people will feel uncomfortable after just a bite of cheese. Also, some people's personal experience does not match their genetic result. This is because other factors – including your diet, your digestive system, other genetic variants, and other health conditions – can impact whether you experience symptoms of lactose intolerance.

Approximate lactose content per serving

Milk	Yogurt	Butter	Cheesecake
15 g	**6 g**	**< 0.1 g**	**3.4 g**
1 cup	*1/2 cup*	*1 tbsp*	*3.5 oz*

Cheddar Cheese	Ice Cream	Whipped Cream	Cottage Cheese
< 0.1 g	**4 g**	**0.1 g**	**2.3 g**
1 oz	*1/2 cup*	*1 tbsp*	*1/2 cup*

Growing out of milk

Just about everybody is born with the ability to digest lactose, and this allows babies to live and grow by drinking their mothers' milk. But as children grow older and begin to eat different foods, many of them lose that ability. People become lactose intolerant because their bodies stop producing lactase, the enzyme that digests lactose. The ability to continue producing lactase after childhood has evolved multiple times in different populations across the world, whenever a group of people depended on milk and dairy products as important sources of nutrition.

Lactose intolerance increases with age

Can people who are lactose intolerant eat cheese?

Not all cheese is created equal – some kinds of cheese contain almost no lactose! Here are a few tips for choosing low-lactose cheeses:

- **Check the label.** Lactose is a kind of sugar. If the nutrition label says a cheese has 0 grams of sugar, then it has very little lactose (according to current FDA standards, less than half a gram per serving).
- **Age is your friend.** Because aging cheese lowers its lactose content, aged cheese (like cheddar) is likely to be low in lactose.
- **Beware of processed products.** Processed cheese products or cheese spreads often have relatively high lactose content because of lactose added during processing.

Digestion and indigestion

People can blame most symptoms of lactose intolerance on the bacteria that live in our intestines. A healthy digestive system is home to trillions of bacteria, which help to digest the food we eat. But when a person who doesn't produce lactase eats or drinks dairy products, intestinal bacteria will start digesting the lactose instead, producing gases that lead to bloating, abdominal pain, and flatulence. Undigested lactose can also lead to diarrhea.

Digestion with lactose intolerance

Evolution in action

Your DNA determines whether you can produce lactase after childhood, a trait known as "lactase persistence." Research suggests that ancient humans were lactose intolerant, and different genetic variants associated with lactase persistence evolved at different times in different parts of the world. This report is based on a genetic variant associated with lactase persistence that evolved in Europe within the last 20,000 years.

	Genetic result	What it means
	GG	Likely lactose intolerant
	AG	Likely not lactose intolerant
You	AA	**Likely not lactose intolerant**

See the percentage of customers with these results

This report does not diagnose any health conditions or provide medical advice. Consult with a healthcare professional before making any major lifestyle changes or if you have any other concerns about your results.

Keep exploring your Wellness results.

Discuss

Join the discussion with other customers interested in Wellness.

Contribute

Help advance scientific knowledge by participating in research.

Share

Compare your results to your family and friends.

Lactose Intolerance

Scientific Details

Almost everyone is born with the ability to digest dairy products. But most people lose that ability as they age, becoming lactose intolerant.

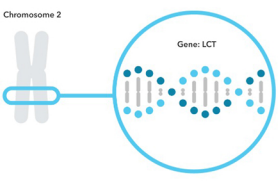
Lactose intolerance is influenced by a genetic marker near the LCT gene.

LCT

The LCT gene contains instructions for making an enzyme called lactase. This enzyme is made by the digestive system to help break down lactose found in dairy products. If lactase levels in the intestines are low, eating or drinking dairy products can lead to symptoms of lactose intolerance.

Read more at Genetics Home Reference

Chromosome 2



You have two copies of the A variant.

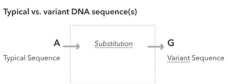
Variants Detected | View All Tested Markers

Marker Tested	Your Genotype*	Additional Information
C/T-13910 **Gene:** Near LCT **Marker:** rs4988235	**A** Typical copy from one of your parents **A** Typical copy from your other parent	

Biological explanation

The genetic marker we tested comes in two different forms: A and G. The A variant keeps the LCT gene "on" during adulthood, while the G variant is associated with the gene being turned "off." Many scientific publications refer to these versions of the marker as T and C instead, using the opposite DNA strand (since a G on one DNA strand is always paired with a C on the other, and A is always paired with T).

Typical vs. variant DNA sequence(s)



Percent of 23andMe customers with variant

Variant: G

European	59.6%
African American	95.5%
Ashkenazi Jewish	98.2%
East Asian	100%
Hispanic or Latino	85.5%
South Asian	97.9%
Middle Eastern	99.0%

References [2, 4, 14] | ClinVar

*This test cannot distinguish which copy you received from which parent. This test also cannot determine whether multiple variants, if detected, were inherited from only one parent or from both parents. This may impact how these variants are passed down.

23andMe always reports genotypes based on the 'positive' strand of the human genome reference sequence (build 37). Other sources sometimes report genotypes using the opposite strand.

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Change Log

Your report may occasionally be updated based on new information. This Change Log describes updates and revisions to this report.

Date	Change
March 31, 2017	Revised content and design.
Oct. 21, 2015	Lactose Intolerance report created.