



# Lactose Sensitivity

(rs4988235) – *LCT*

## Your DNA Outcome



Your variant is associated with lower lactase levels and an increased risk of lactose intolerance.

You Are Genotype

**AG**

Scientific Confidence Grade



Percentage of the Population with AG Genotype

**15%**

## Recommendation

There are a variety of lifestyle and dietary changes that you can make to reduce the frequency of lactose intolerance symptoms.

- Removing dairy products from your diet completely can be difficult if you live in Europe or North America.
- Lactose may be present in many foods you don't expect including salad dressing, baked goods and soups.
- You can find many lactose-free dairy products and alternatives to ensure that you have enough calcium, vitamins, and protein in your diet.
- Some examples of lactose-free or foods low in lactose include:
  - Lactose-free (aka lactose-hydrolyzed) milk.
  - Soy, almond and rice beverages.
  - Casein or soy-based cheese alternatives.
  - Yogurts with live bacterial cultures or lactose-reduced yogurts.

## About Lactose Intolerance

The ability to consume and easily digest dairy products into adulthood is common among individuals with European ancestry and, to a lesser extent, individuals of Middle Eastern ancestry. This is due to the persistence of lactose digesting enzymes after childhood (lactase persistence), a trait that developed in response to the consumption of cow milk by the ancestors of these groups. Individuals with ancestry from other parts of the world generally develop lactose intolerance after childhood, when they no longer need the ability to digest milk from their mother.

Individuals who are lactose intolerant are unable to break down the lactose sugars because their digestive system no longer produce the enzyme lactase. This means that the lactose sugars make it to the large intestine where they are digested by bacteria, who release gas. As a result, when lactose intolerant individuals consume dairy products they experience a variety of uncomfortable symptoms including bloating, gas, cramping, nausea, and diarrhea.

## Gene Summary

The *LCT* gene produces lactase, a protein that breaks lactose into simple sugars. If your body doesn't produce enough lactase, undigested lactose enters your colon where your gut bacteria consume it and produce gas. Certain variants of this gene are associated with decreased lactase production, resulting in increased risk of lactose intolerance.

