

Genetic Lifehacks

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Learn. Experiment. Optimize.

Hi there,

This week's article is another one requested by a member. I'm great at jotting down member suggestions, but not so great at noting who suggested it. So, whomever you were.... this one's for you :-)

Many members have also asked what they can do about the blanks in their data. They are tired of seeing "*Members: Your genotype for rs1234 is --.*" Combining two data files, such as 23andMe plus AncestryDNA will fill in a lot of the blanks. And AncestryDNA is on sale through St. Patrick's Day for \$59.

If you are worried about your data privacy with AncestryDNA (since they were [bought by Blackstone](#) last year), keep in mind that you can always [delete](#) your genetic data file from both AncestryDNA and 23andMe. (Not all testing companies offer this option, so it is something to check for in the privacy policy before ordering any genetic test.)

Data privacy is often on my mind, especially with the health privacy issues raised by pandemic measures such as vaccine passports, testing data being shared, contact tracing, and data breaches ([1](#) [2](#) [3](#) [4](#) [5](#)). I've recently been getting ads on Twitter promoting a new website offering a free report on 'how inbred are you'. Before you upload your genetic data anywhere (including to find out if you are inbred ;-), please be sure to read the privacy policy. Many companies are offering free or cheap reports in order to acquire a lot of genetic data. While these 'free' report companies may state that they aren't selling your data, their goal is often to be bought out by a big tech company, with your data sold as a company asset. For example, Ancestry fetched a whopping \$4.7 [billion](#) for a majority stake in the company. Promethease and SNPedia were bought out by [MyHeritage](#) a few years ago, with the genetic data for hundreds of thousands of users transferred to MyHeritage.

Gratefully yours,

Debbie

Choline:

- PC
- Alpha-GPC
- Citicoline



[Latest article:](#)

Which type of choline works best with your genes?

Choline is an essential nutrient that your body uses in several important ways. “Essential”, in this case, means that you have to get it from the foods you eat. Many of us don’t get enough choline in our diets, and just upping the choline-rich foods can help several aspects of our health. But some of us want to take optimizing brain function to the next level... The question then becomes – how much and which specific type of choline can level up your cognitive function.

Choline: from nootropics to gut health

Choline is a vitamin-like nutrient; it’s incorporated and used in every cell of your body. Like many essential biological processes, there are redundant pathways for ensuring choline is available. But without choline in the diet, these synthesis pathways can’t keep up. A lack of choline can lead to various conditions, from cognitive issues to fatty liver disease.

What do the different types of choline do in the body?

Choline is absorbed in different forms from your diet and converts into the following forms.[\[ref\]](#)

- **Betaine**, an oxidized form of choline, can be used as a methyl donor.
- **Acetylcholine** is an acetylated form of choline used extensively as a neurotransmitter, essential in learning, attention, and memory.
- **Phosphatidylcholine**, the phosphorylated form, is incorporated into your cell membranes to make them more fluid.

Tradeoffs to consider: Choline is necessary in the right amount. Not enough choline impacts cognitive function, reproduction, and liver function. Too much choline, though, can interact with the gut microbiome to produce a choline-derived metabolite (TMAO), which is linked to an increased risk of heart disease.[\[ref\]](#)

[Read the full article](#)

More to read...



Should you take folic acid if you have MTHFR variants?

There is a lot of buzz online about MTHFR variants and the need to avoid folic acid. I've seen recommendations ranging from avoiding all processed foods that are fortified with folic acid — to recommendations that people with MTHFR variants need to take extra folic acid.

I've dug into the topic to see what is in the research studies about folic acid. Is it so evil that everyone should go out of their way to avoid it? Or is it a wonderful benefit for women trying to conceive?



Choline-rich foods and recipe ideas

Unfortunately, many Americans don't get the recommended 425–550 mg of choline per day in their normal diet. This can be further exacerbated by certain genetic variants that reduce the body's ability to produce or convert choline.

Anyone looking to increase their choline intake is in luck! There are a number of food sources of choline that are easily incorporated into your diet. Check out the recipes at the end of this article for inspiration

Thank you for supporting Genetic Lifehacks through your membership! If you ever have a problem with your membership and need help, please don't hesitate to email me at debbie@geneticlifehacks.com.

Did you know?

Your genetic data is not uploaded to my server when you connect as a member. Instead, it stays on your computer and the member features are rendered locally in your browser. This keeps your genetic data safely under your own control. But... you will sometimes need to reconnect to your data, such as when your browser software updates.

What I've Been Reading...

1) [Why daylight saving time is unhealthy - a neurologist explains](#)

This article by a neurology professor explains why springing forward messes with our natural circadian rhythm, leading to increased rates of heart disease, diabetes, and cancer.

2) [FDA okays genome-edited beef cattle trait after safety review](#)

Beef Magazine reports that the FDA has given their stamp of approval for CRISPR-edited cows to be used for meat. This follows FDA approval for genetic editing of salmon, pigs, and goats used for consumption.

3) [Ebola can persist in the brain](#) (*Science*)

Researchers have discovered that the ebola virus can persist in the brain even after treatment with monoclonal antibodies.

4) [Hibernation slows epigenetic aging](#) (*Nature*)

Researchers looked at the epigenetic changes in hibernation and found that aging is 'suspended during hibernation'. When an animal hibernates, its metabolic activity slows dramatically. Hibernating animals have long periods of hypometabolic periods at low body temperature, which are cyclically broken by moving back into normal body temperature.

