

Genetic Lifehacks

Snips about SNPs

**Getting started with
learning about your genes**

START



TABLE OF CONTENTS

- 1** Introduction: The goal is interesting and fun
- 2** ABCC11: Body odor and ear wax
- 3** TASR238: Tasting bitter substances
- 4** MTHFR: Methylation cycle and folate
- 5** FADS1: Fish oil for DHA/EPA
- 6** CLOCK: Evening chronotypes
- 7** GNB3: Hangry gene?
- 8** ALDH2: Alcohol flush reaction
- 9** Next Steps: Where to go from here



Goal: Interesting and Fun

INTRODUCTION

Genetic Lifehacks is all about explaining the research.

If you're like me, examples make a topic come to life. Multiple examples come together to form a mental picture, like coat hooks to hang ideas on.

Most **GeneticLifehacks.com** articles go in depth on various health topics. Sometimes, it can be overwhelming. I'll admit it: Rereading some of my own articles makes my head spin.

This **Snips About SNPs** guide is the opposite -- it's a quick, fun overview of a bunch of different genetic variants. It's like an appetizer tray full of interesting bits. If you want to learn more about the topic, just click or scan the link for the full article, ripe with details and references.


Before we get started, let me explain what the title means:

SNP stands for **Single Nucleotide Polymorphism**. It simply means that at one spot in your DNA, you have an alternative nucleotide (A, C, G, or T). A few SNPs make a big impact on how the gene works, but most just give a minor tweak, a little change that makes us all unique.

Have fun learning,

~ Debbie Moon

Founder, Genetic Lifehacks



Body Odor and Earwax

ABCC11 Gene

The ABCC11 gene (ATP-binding cassette transporter sub-family C member 11) encodes a protein involved in transporting molecules across cellular membranes. ABCC11 is important for the transport of lipophilic compounds, bile acids, conjugated steroids, and – important here – the **substance in apocrine sweat and in earwax**, thus causing body odor and wet earwax.

For people who have **loss-of-function** genetic variants, the transporter doesn't work and doesn't transfer the odor-causing lipids into your armpits. **No body odor!**

Check your genes:

Look up in
your genetic
data

Check your genetic data for rs17822931 (23andMe v4, v5; AncestryDNA):

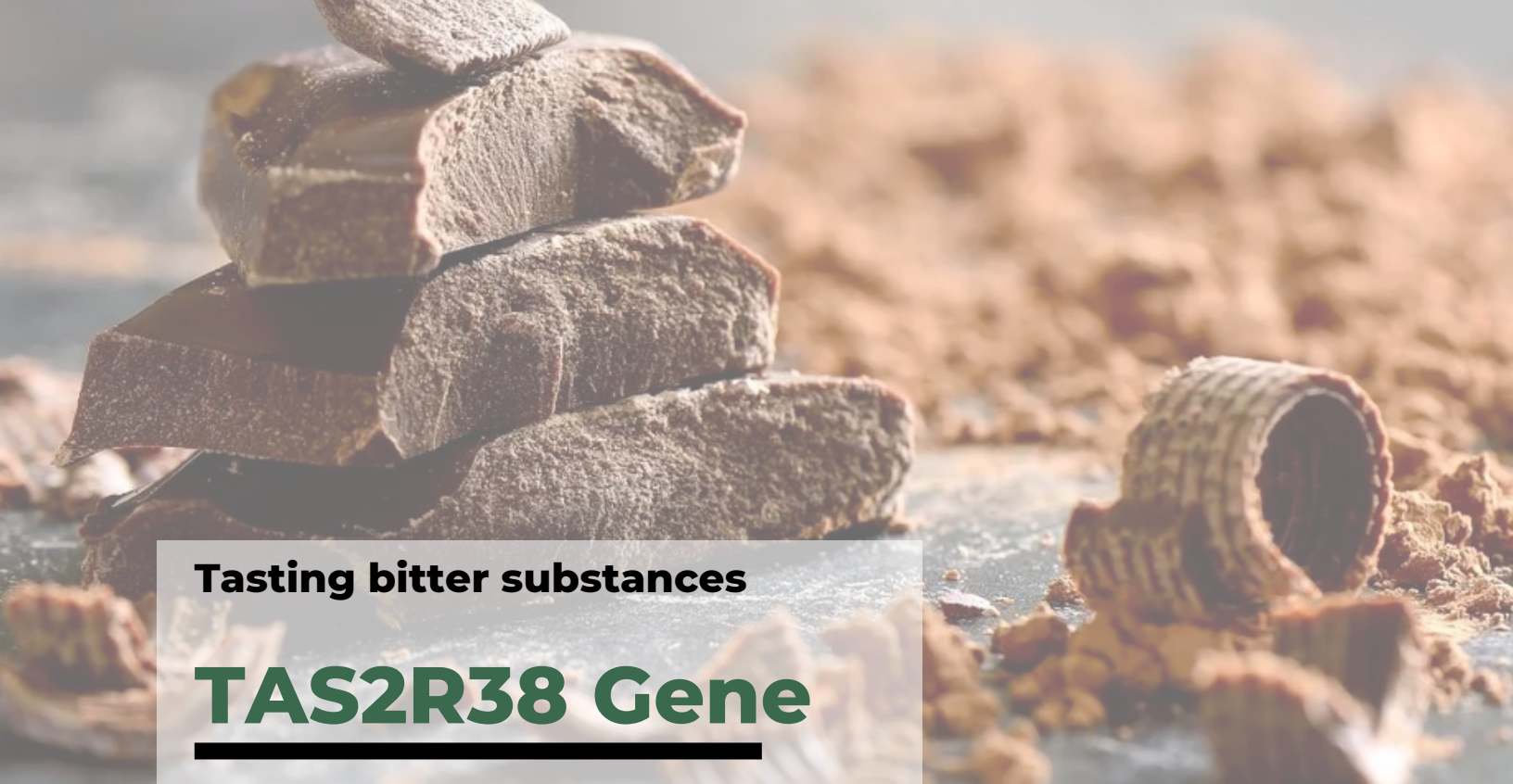
- C/C: wet earwax, body odor, and normal colostrum
- C/T: wet earwax, somewhat less body odor
- T/T: dry earwax, no body odor, and less colostrum

Learn More:

[ABCC11 gene: Ear wax and no body odor](#)



Scan with
your phone
camera



Tasting bitter substances

TAS2R38 Gene

Do you love dark chocolate and coffee? Both of them have bitter flavors that some people can taste – and some people cannot!

We have a bunch of different genes that code for different taste receptors. These receptors lock onto the molecules in foods, sending a message of what the food tastes like. Different variants of those taste receptor genes mean that foods don't taste the same to everyone.

From bitter tastes that you may not detect to loving or hating cilantro, your taste receptor genetic variants impact the foods that you like to eat.

Check your genes:

Check your genetic data for rs713598 (23andMe v4, v5; AncestryDNA):

- G/G: Can taste bitter in broccoli, dark chocolate, etc.
- C/G: Probably can taste bitter
- C/C: Unable to taste some bitter flavors

Learn More:

[Taste Receptors: Bitter, sweet, and much more](#)





Methylation cycle

MTHFR Gene

The MTHFR gene codes for the enzyme that converts folate into the form that your body needs in the methylation cycle (methylfolate).

Making methyl groups is important for a bunch of reactions in the body - from detoxification to creating neurotransmitters to heart health.

If you have genetic variants that decrease the MTHFR enzyme function, it is important to make sure you get plenty of folate-rich foods in your diet. Good sources of folate include dark leafy greens, legumes, broccoli, and liver.

Check your genes:

Check your genetic data for rs1801133 C677T (23andMe v4, v5; AncestryDNA):

- G/G: typical
- A/G: function decreased by 40%
- A/A: function decreased by 70 - 80%

Learn More:

[MTHFR and the Methylation Cycle](#)





DHA and EPA from fish

FADS1 Gene

Omega-3 fatty acids are good for you in several ways, but one big thing we gain from omega 3's is DHA and EPA for brain health. These two fatty acids have links to lower heart disease and better brains.

The body can convert plant-based omega 3's from flaxseed and chia seeds into DHA and EPA.

But for people with FADS1 genetic variants, this conversion process is extremely limited. Instead, they may need to get DHA and EPA directly through fish or algae oil (vegan option).

Check your genes:

Check your genetic data for rs174546 (23andMe v4, v5; AncestryDNA)

- T/T: low FADS1 enzyme activity, fish oil instead of plant omega 3's
- C/T: lower FADS1 enzyme activity, fish oil instead of plant omega 3's
- C/C: typical FADS1 activity

Learn More:

[Ancestral Diet: Omega-3 and Omega-6 Fatty Acids](#)





Evening Chronotypes

CLOCK Gene

The aptly named CLOCK gene is part of your core circadian rhythm, which is the 24-hour rhythm that controls your physiological and mental cycles each day.

Recently, researchers have linked the circadian clock to a variety of different chronic conditions including obesity, heart disease, diabetes, and depression.

Your CLOCK gene variant may impact whether you are more likely to be active during the evening and stay up a little later.

Check your genes:

Check your genetic data for rs1801260 (23andMe v4, v5):

- G/G: higher activity in the evening, possible delayed sleep onset
- A/G: somewhat more active in the evening, delayed sleep
- A/A: typical

Learn More:

[Circadian Rhythms: Genes at the Core of Our Internal Clocks](#)





Hangry?

GNB3 Gene

Ever wonder how your friends can go all day without eating — or why they love intermittent fasting — when you get so irritable and grumpy?

Perhaps you have the “Hangry Gene”.

Everyone gets hungry at first when they fast, but most people lose the intense desire to eat after fasting for a while. However, some people have more hunger and a poor mood (hangry!) when fasting, because of a specific genetic variant in the GNB3.

Check your genes:

Check your genetic data for rs5443 (23andMe v4, v5; AncestryDNA):

- C/C: best mood, least hunger
- C/T: somewhere in the middle with more hunger than C/C
- T/T: worst mood, most hunger when fasting – hangry

Learn More:

[Is intermittent fasting right for you?](#)





Alcohol flush reaction

ALDH2 Gene

Does your face flush after a drink or two?

The ALDH gene is responsible for the enzyme that breaks down acetaldehyde, which is a toxin that your body produces from alcohol.

While most people can get rid of acetaldehyde fairly quickly, for some, a genetic variant in the ALDH2 gene causes it to build up. This can cause your face to flush — known as an alcohol flush reaction. It also can make you feel bad when drinking...

Check your genes:

Check your genetic data for rs671 (23andMe v4, v5; AncestryDNA):

- A/A: Alcohol flush reaction
- A/G: Alcohol flush reaction
- G/G: typical acetaldehyde metabolism

Learn More:

[Alcohol Genes: Alcohol Metabolism Rate](#)



NEXT STEPS

Where do you go from here?

Learning how your genes influence your diet, health, and longevity can be life changing, but it is easy to get overwhelmed by the information. Here are a few suggestions on how to get started:

1

READ MORE!

Check out different health topics that interest you on GeneticLifehacks.com. From mood issues to inflammation to heart health, your genes have an impact.

2

EXPERIMENT

Each article on Genetic Lifehacks includes a section covering possible solutions related to your genes. Experiment! Implement a solution and see what works for you.

3

OPTIMIZE

Write down your health goals. If you add a supplement to target a specific gene, keep track of whether it accomplishes what you are wanting.

4

BECOME A MEMBER

[Genetic Lifehacks membership](#) makes it easy to see your genetic data in each article, saving you time as you explore your genes.