

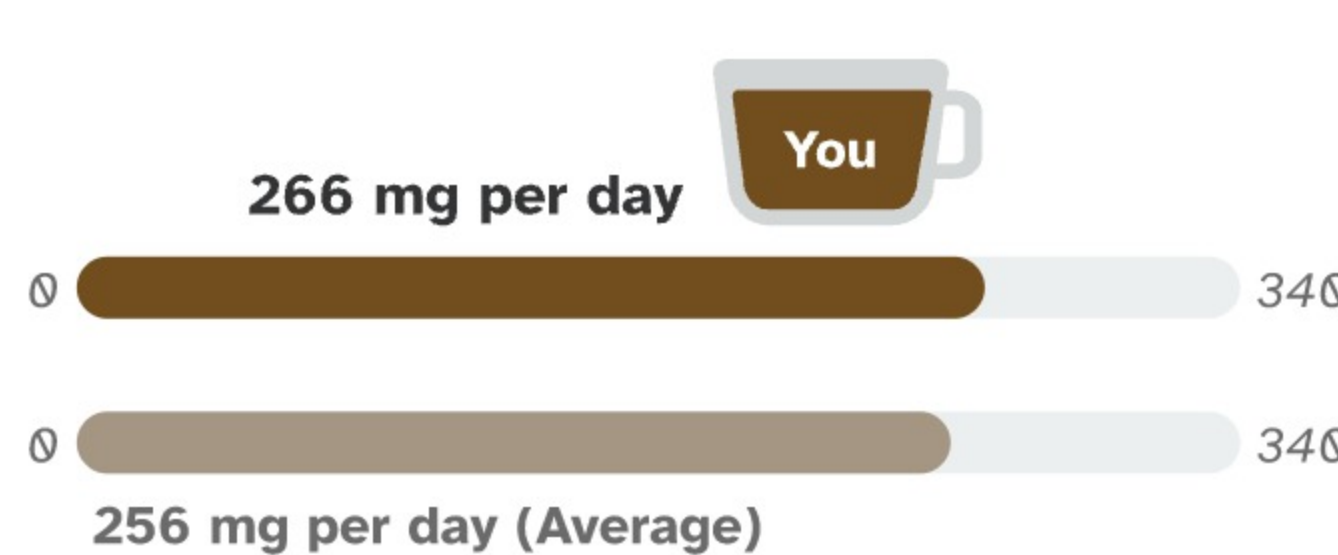
# Caffeine Consumption

What makes some people caffeine fanatics, while others go easy on the java? Genetic factors help explain how much caffeine people tend to consume.

Overview Scientific Details

Jamie, based on your genetics, you are likely to drink **slightly more caffeine than average**, if you drink caffeine at all.

23andMe research participants with your genetic result who consume caffeine regularly tend to drink just a little bit more than average (10 mg of caffeine) per day. Of course, not everyone chooses to consume caffeine, but for those who do, their genetics may play a role in the amount they consume.



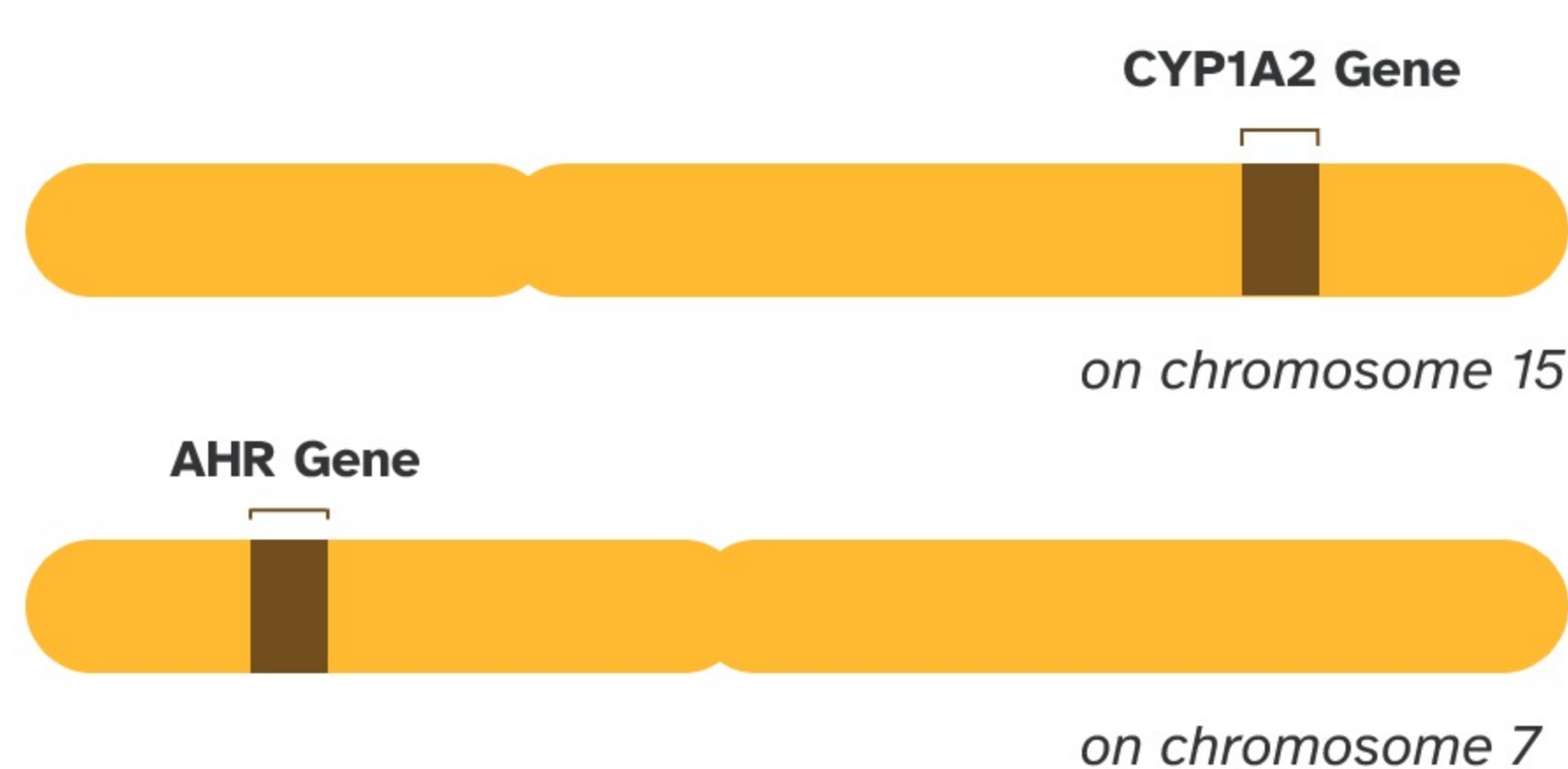
## What you can do

If you consume caffeine, current guidelines recommend that healthy adults drink no more than about three 12-oz cups of coffee or eight 8-oz cups of tea per day. And since caffeine hangs around in your system for several hours, consider avoiding caffeine starting mid-afternoon or earlier if you want a good night's sleep.

## Genetics and Caffeine

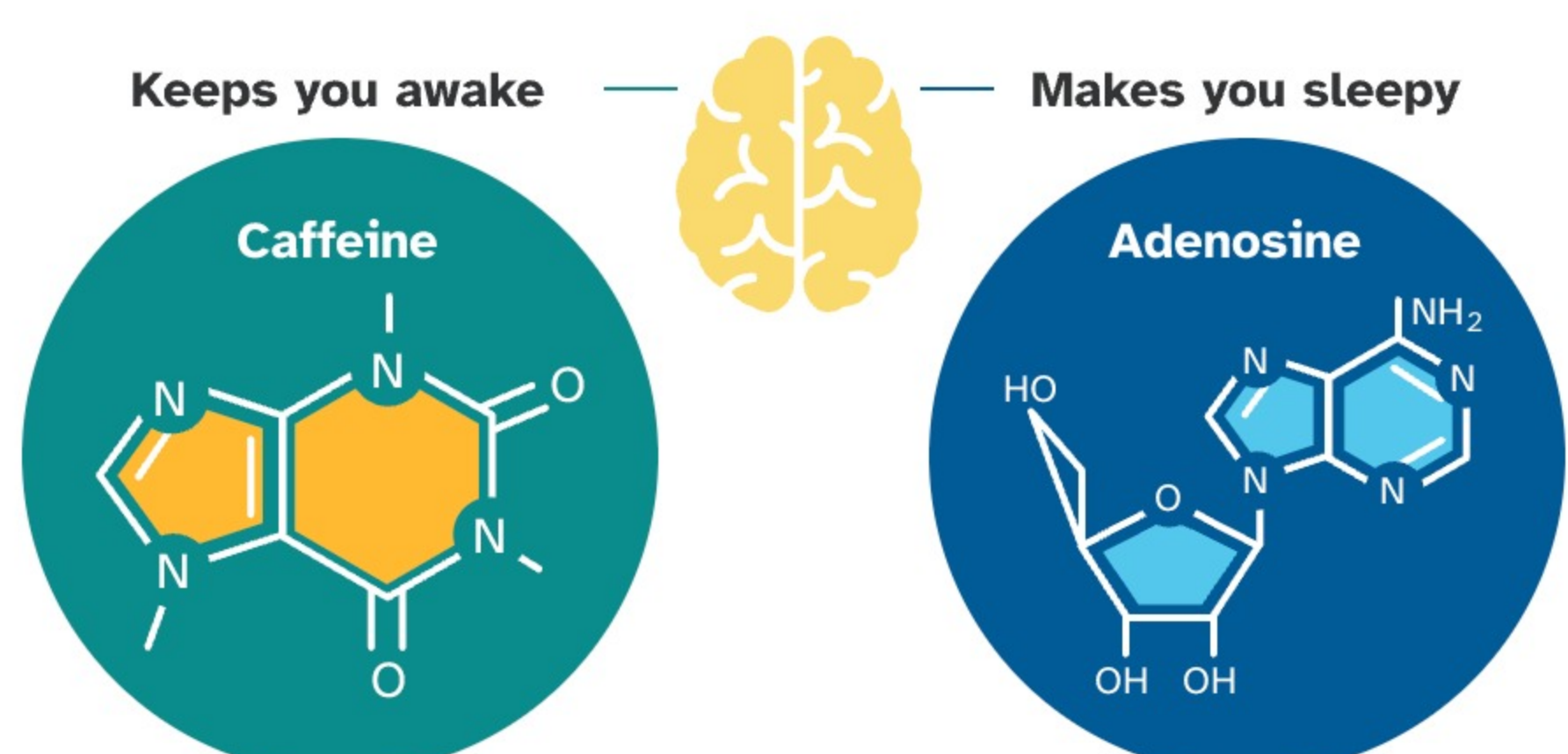
### Genetics

This report is based on genetic variants near two genes that play a role in how your body handles caffeine. The first gene, CYP1A2, contains instructions for an enzyme that breaks down 95% of the caffeine you consume. The second gene, AHR, contains instructions for a protein that ramps up production of the CYP1A2 enzyme. Variants in these genes may affect how quickly the body breaks down and clears away caffeine.



### How does caffeine keep you awake?

Caffeine interferes with the brain system that causes sleepiness. A molecule called adenosine acts as a signal between brain cells to bring on sleepiness. Caffeine blocks adenosine's signals, making you feel more alert. This is also why caffeine can make it hard to fall asleep and interfere with deep sleep.



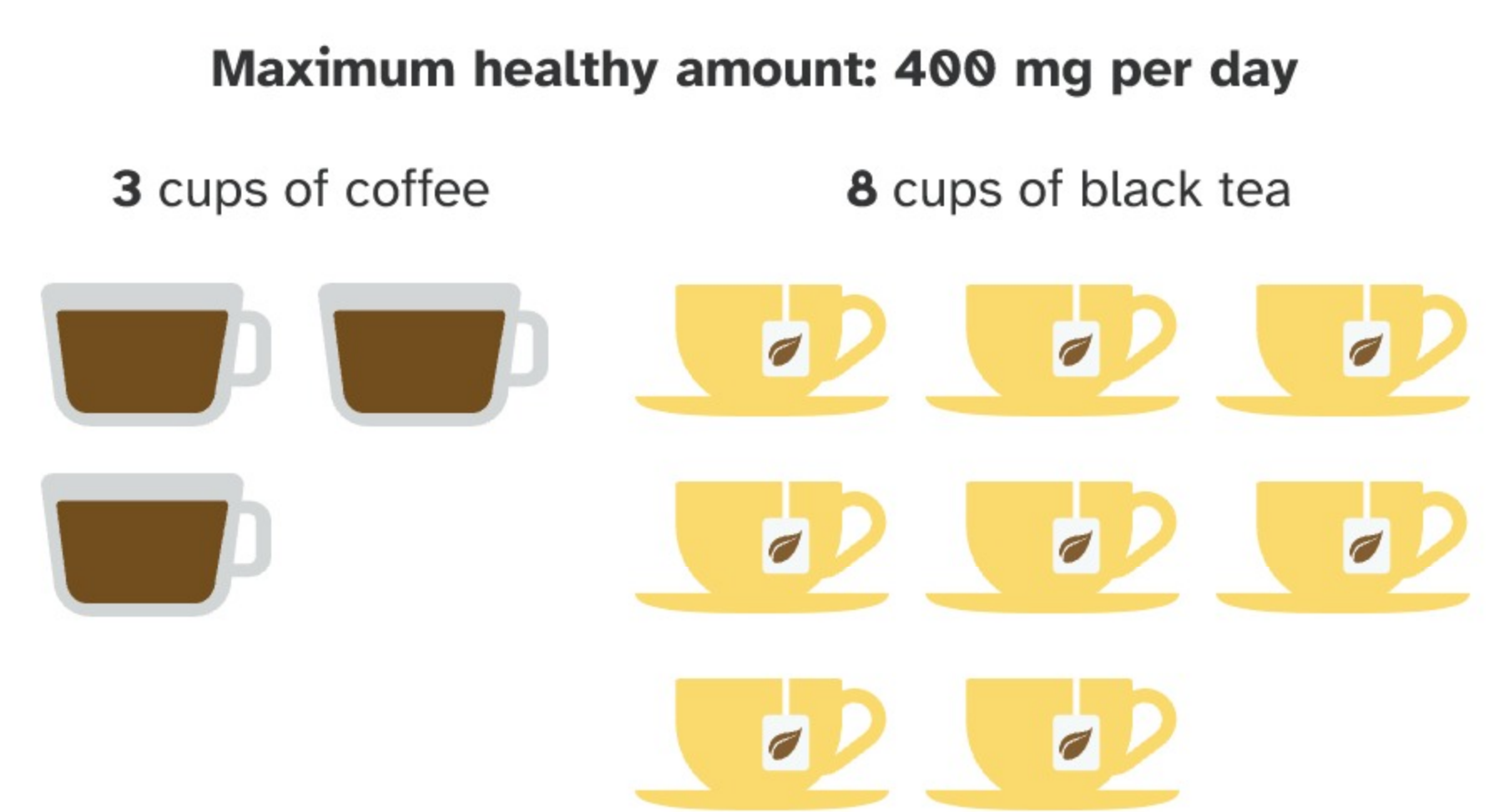
### Does caffeine enhance performance?

It can feel like coffee makes you smarter, but some research suggests this may be an illusion. People with a daily caffeine habit may actually perform worse than other people on mental and physical tasks — that is, until they get their morning fix. As caffeine is cleared from the body overnight, daily caffeine drinkers start to experience caffeine withdrawal. This leads to worse performance until they have their morning coffee or tea, which reverses the withdrawal. Meanwhile, for people who aren't used to consuming caffeine every day, caffeine may not improve performance much, if at all.



### How much is too much?

Moderate levels of daily caffeine consumption aren't associated with increased health risks and may even lower the risk for some diseases. If you consume caffeine regularly, current guidelines recommend that healthy adults limit themselves to 400 mg of caffeine per day or less. That's the equivalent of about three 12-oz cups of coffee or eight 8-oz cups of black tea. Keep in mind the exact amount of caffeine in coffee and tea — even decaf — can vary widely depending on how they're made.

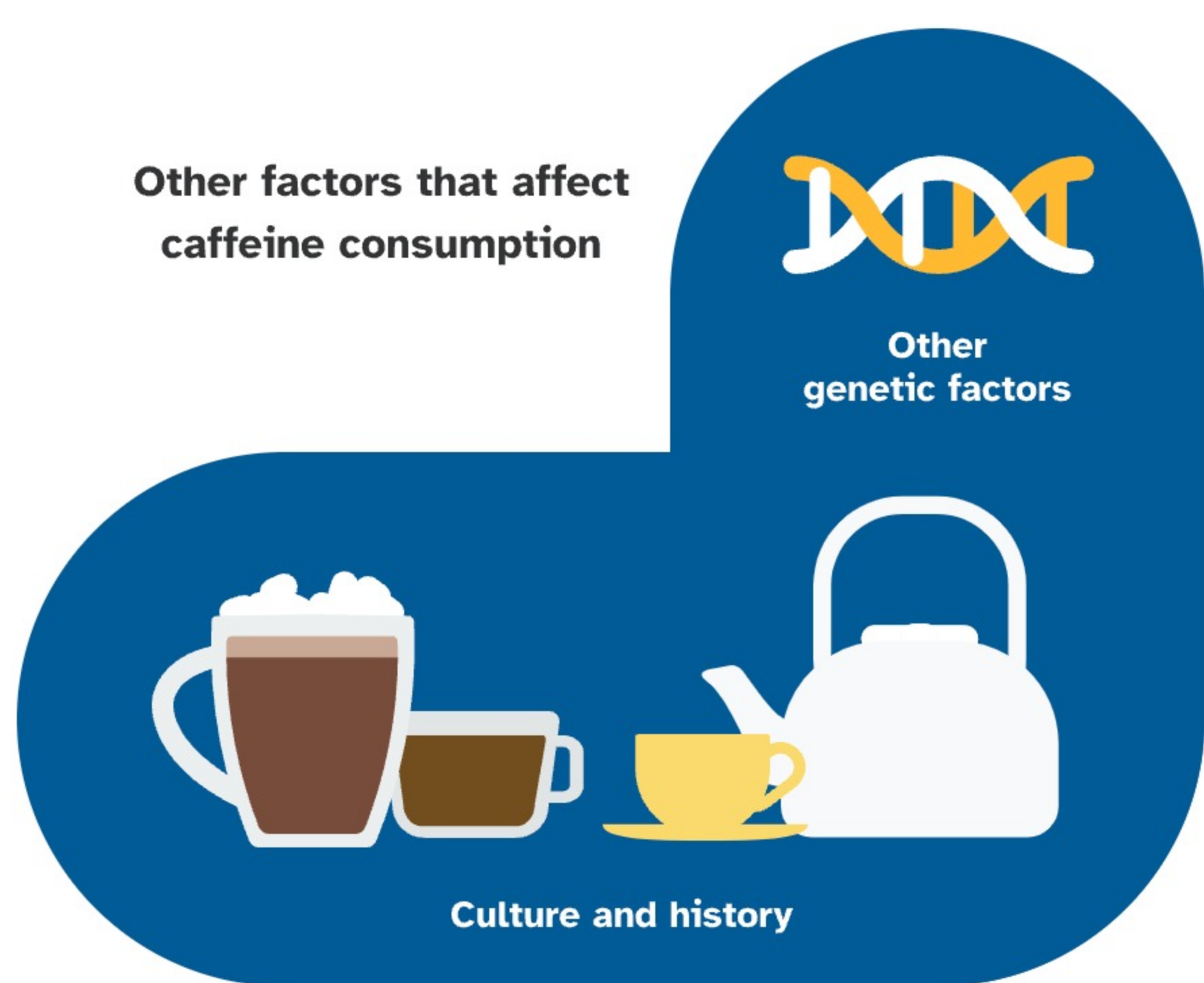


### Other factors that affect caffeine consumption

The genetic variants in this report are associated with a difference of up to about two thirds of a cup of coffee per day. But there are other factors that also affect how much and what types of caffeine people choose to drink:

**Other genetic factors:** Scientists are still discovering genetic variants that may help account for differences in caffeine consumption.

**Culture and history:** Caffeine has been consumed for thousands of years in the form of coffee, tea, chocolate, and mate. Coffee originally became popular in Africa and the Middle East, tea in China, and chocolate drinks and mate in Central and South America.



**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.

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# Caffeine Consumption

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Overview **Scientific Details**

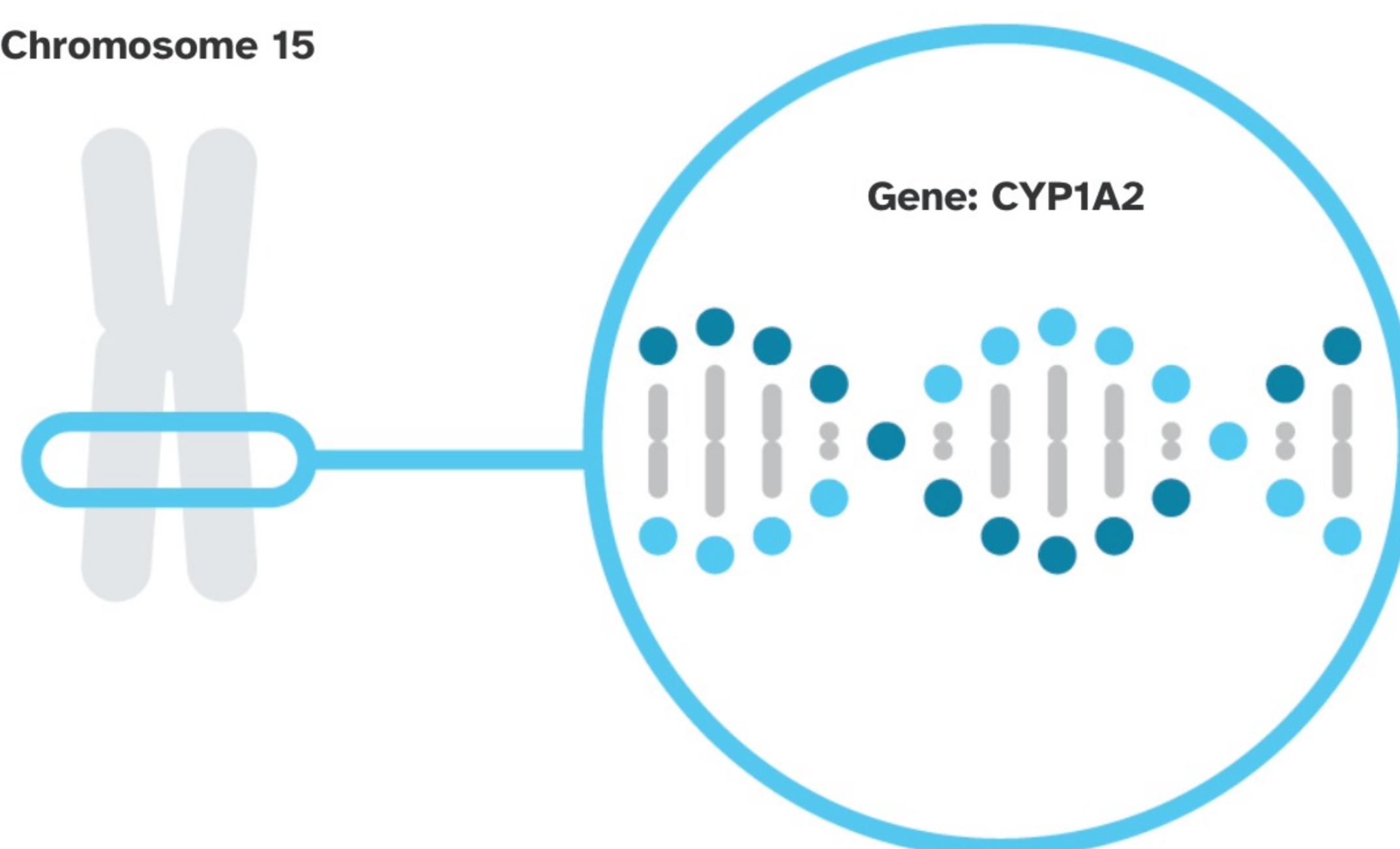
Caffeine consumption and metabolism are influenced by genetic markers near the CYP1A2 and AHR genes.

CYP1A2

AHR

The CYP1A2 gene contains instructions for an enzyme that breaks down many substances, including caffeine. This enzyme is a member of a large family of enzymes called cytochrome P450.

Chromosome 15



You have two variants associated with consuming more caffeine.

Variants Detected

View All Tested Markers

Marker Tested	Genotype*	Additional Information
<p><b>rs4410790</b></p> <p>Gene: Near AHR</p> <p>Marker: <b>rs4410790</b></p>	<p><b>C</b></p> <p>Variant copy from one of your parents</p>	<p><b>C</b></p> <p>Variant copy from your other parent</p> <ul style="list-style-type: none"> <li>Biological explanation</li> <li>Typical vs. variant DNA sequence(s)</li> <li>Percent of 23andMe customers with variant</li> <li>References [ 1, 7 ]</li> </ul>

\*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.

## References

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- Cornelis MC et al. (2016). "Genome-wide association study of caffeine metabolites provides new insights to caffeine metabolism and dietary caffeine-consumption behavior." *Hum Mol Genet*. doi: 10.1093/hmg/ddw334. ↗
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- Zhou SF et al. (2009). "Insights into the substrate specificity, inhibitors, regulation, and polymorphisms and the clinical impact of human cytochrome P450 1A2." *AAPS J*. 11(3):481-94. ↗

## Change Log

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

Date	Change
May 4, 2017	Caffeine Consumption report updated with revised content and design.
Oct. 21, 2015	Caffeine Consumption report created.



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