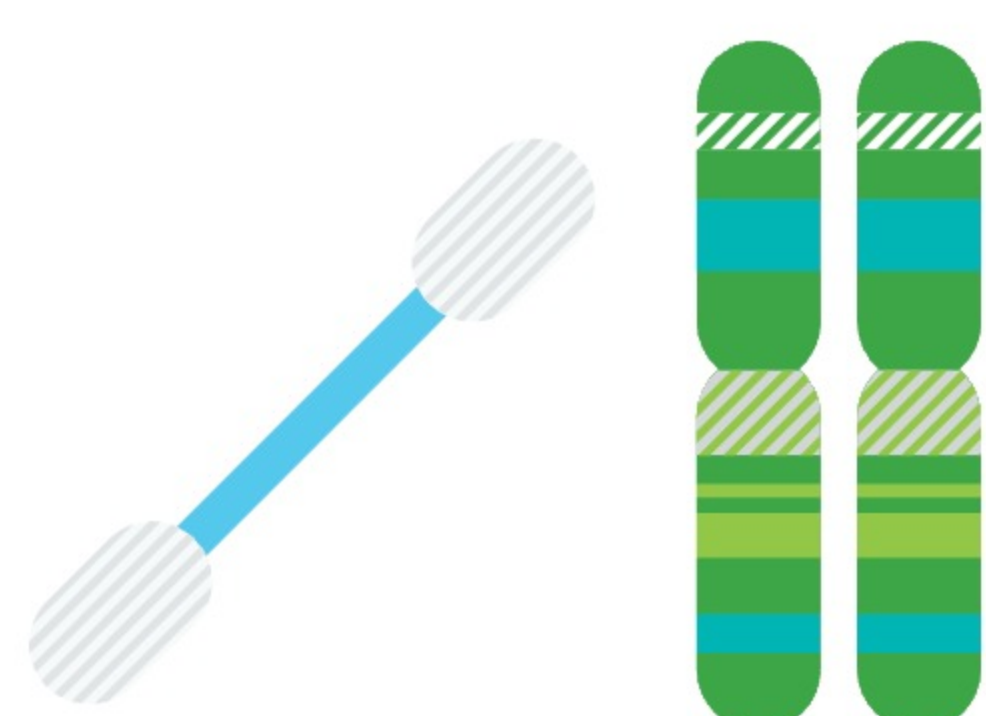


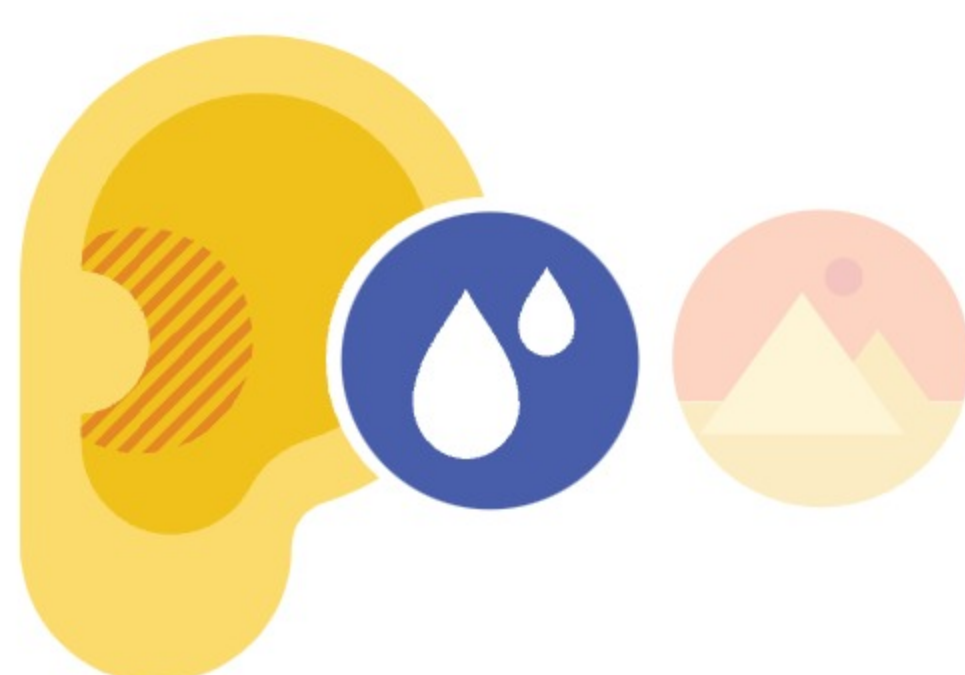
# Earwax Type

Overview Scientific Details



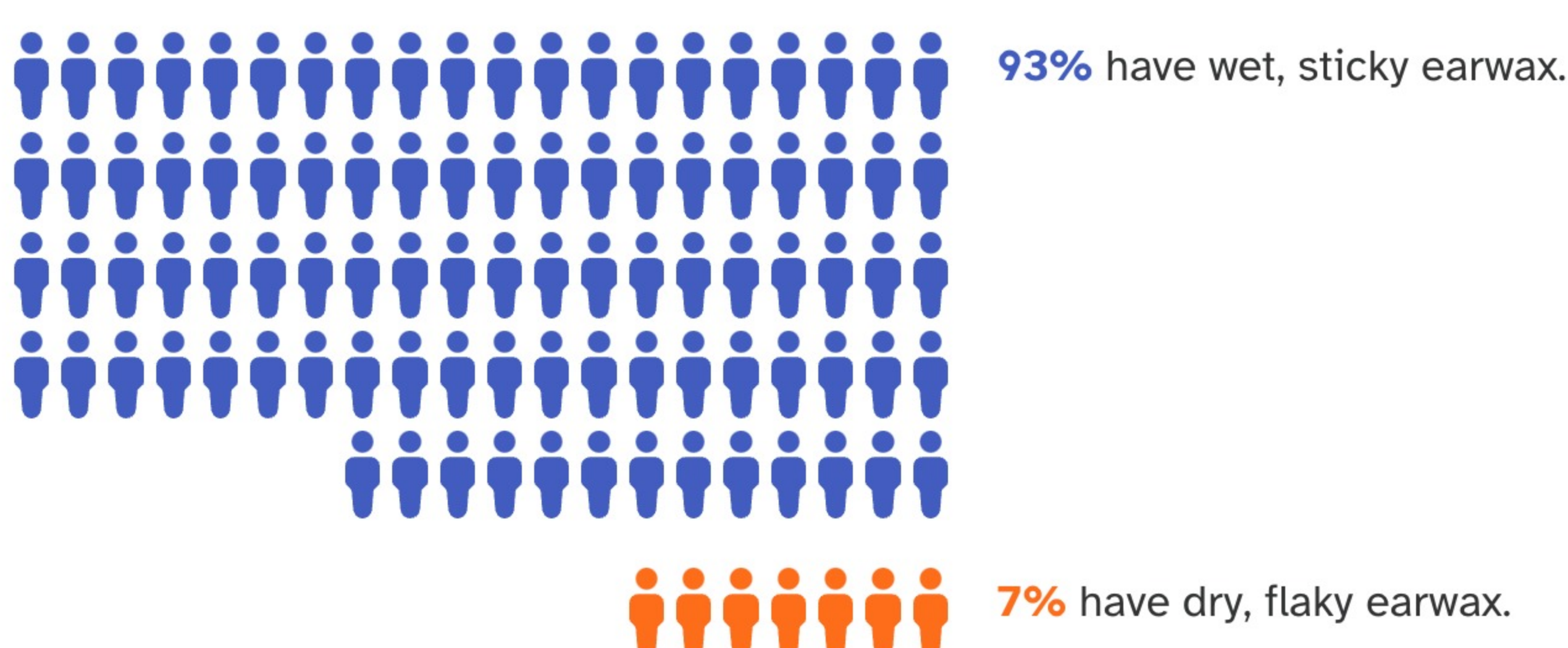
## Wet or dry?

Although you may not notice your neighbors' earwax, did you know it comes in two different types? Dry earwax is flaky and light-colored compared to wet earwax, which is dark-colored and sticky.



Jamie, your genetics make you more likely to have **wet earwax**.

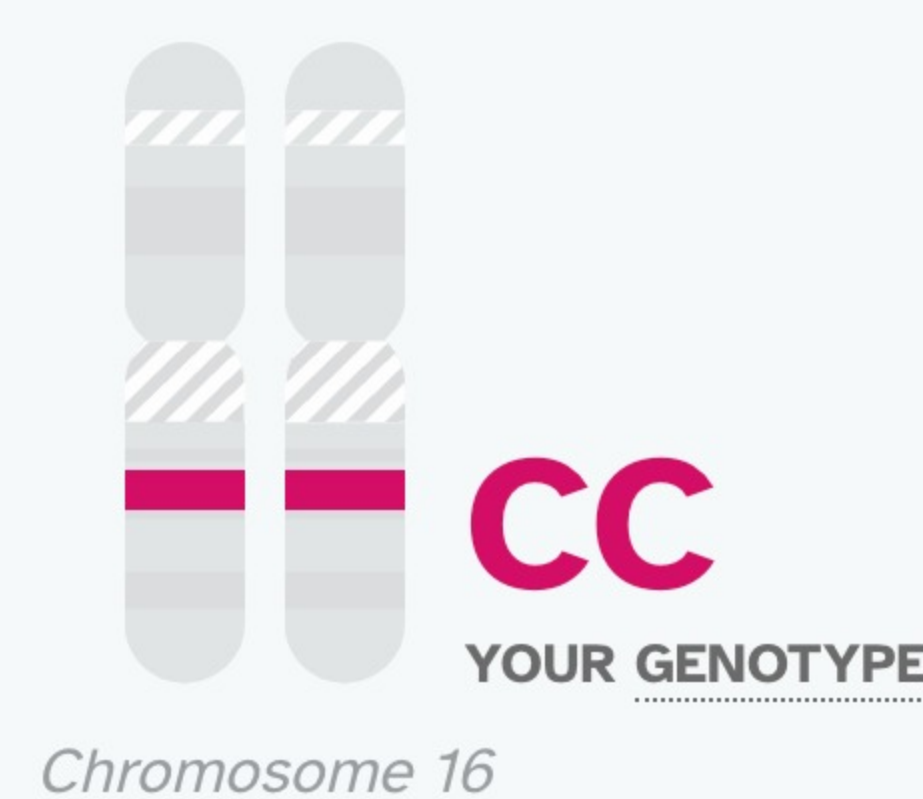
Of 23andMe research participants with genetics like yours:



→ What is your earwax type?

## How did we calculate your result?

We looked at a place in your DNA (a genetic marker) that affects your chances of having wet or dry earwax. Your combination of variants at this marker is usually found in people with wet earwax.



See Scientific Details

## More about earwax

### Why do we have earwax anyway?

It may seem counterintuitive, but earwax helps your ears stay clean. It traps dirt and bacteria and slowly moves it up and out of the ear canal. Not only that, earwax also contains at least 10 compounds that help it prevent bacteria from growing inside your ear in the first place.



### How your genes determine earwax type

Wet earwax is dark-colored and sticky, while dry earwax is light-colored and flaky. Both types are equally good at keeping dirt and bacteria at bay, but the difference between the two is determined by a single variant in the ABCC11 gene. The ABCC11 gene contains instructions for a protein that specializes in moving fat into, and out of, your cells. People who have 1 or 2 copies of the C variant in the ABCC11 gene have more fat in their earwax, making it dark-colored and sticky. People who have two copies of the T variant have less fat in their earwax, making it dry, light-colored, and flaky.

Genetic result	What it means
CC	Likely wet earwax
CT	Likely wet earwax
TT	Likely dry earwax

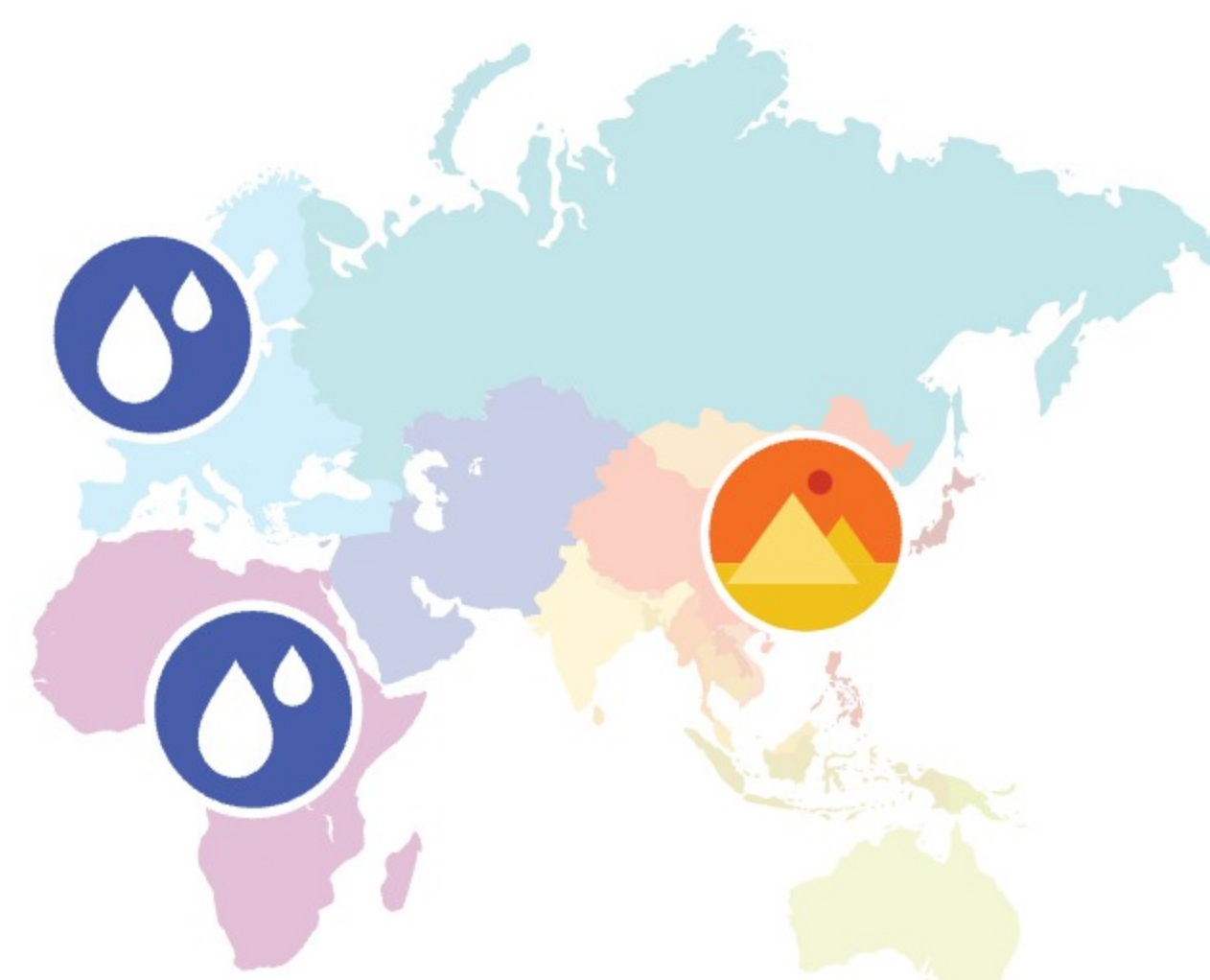
### What your earwax says about your armpits

The same ABCC11 gene is involved in sweat production and body odor. Having more fat molecules in a person's sweat is linked to more body odor. So the same genetic variant in the ABCC11 gene that determines the dry earwax type is also linked to lower levels of body odor.



### Earwax in early human history

Dry earwax is found in 80-95% of people of East Asian descent, but in less than 3% of people of European or African descent. This distinct geographic distribution of earwax type provides clues about early human migration patterns. The variant that causes dry earwax likely arose in the group that migrated from Africa towards Asia. The group that migrated to Europe retained the wet earwax of their African ancestors.



## Keep exploring your Traits results.

**Contribute**

Join the research effort and contribute to new discoveries.

**Compare**

Compare your results to your family and friends.

**Discuss**

Join the discussion with other 23andMe customers interested in Traits.

Did you find this interesting?

Yes No



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Get reward

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- Your Connections
- GrandTree
- Advanced DNA Comparison

# Earwax Type

[Overview](#)
[Scientific Details](#)

We use one of two different methods to calculate your trait results.

## Statistical Model

Most traits are influenced by many different factors, including genetics, lifestyle, and environment. Usually, a statistical model using many factors provides better predictions than looking at single factors by themselves. To develop our models, we first identify genetic markers associated with a trait using data from tens of thousands of 23andMe customers who have consented to research. Then, we use statistical methods to generate a "score" for that trait using your genotype at the relevant genetic markers as well as your age and sex. We predict your likelihood of having different versions of the trait based on the survey responses of 23andMe customers with similar scores. These predictions apply best to customers who are of the same ethnicity as the people whose data contributed to the model. The accuracy of these predictions varies from trait to trait.

[Read more about our statistical methodology](#)


## Curated Model

For some traits, just a few genetic markers can strongly predict whether a person will have a particular version of the trait. For curated models, we first evaluate published scientific studies to identify genetic markers with well-established associations with the trait. Then, we look at genetic and survey data from tens of thousands of 23andMe customers who have consented to research. We estimate your likelihood of having different versions of the trait based on survey responses from customers who are genetically similar to you at those markers. These results apply best to customers who are of the same ethnicity as the people whose data contributed to the predictions.

## About your Earwax Type result

Your result for this trait was calculated using a **curated model**.

[Variants Detected](#)
[View All Tested Markers](#)

Marker Tested	Your Genotype*	Additional Information
<b>538G&gt;A</b> Gene: <a href="#">ABCC11</a> Marker: <a href="#">rs17822931</a>	<b>C</b> Typical copy from one of your parents 	<b>C</b> Typical copy from your other parent <ul style="list-style-type: none"> <li>✓ <b>Biological explanation</b></li> <li>✓ <b>Typical vs. variant DNA sequence(s)</b></li> <li>✓ <b>Percent of 23andMe customers with variant</b></li> <li>✓ <b>References [ 5, 6 ]</b></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

- [Hanger HC and Mulley GP. \(1992\). "Cerumen: its fascination and clinical importance: a review." J R Soc Med. 85\(6\):346-9. ↗](#)
- [Harker M et al. \(2014\). "Functional characterisation of a SNP in the ABCC11 allele - effects on axillary skin metabolism, odour generation and associated behaviours." J Dermatol Sci. 73\(1\):23-30. ↗](#)
- [Ohashi J et al. \(2011\). "The impact of natural selection on an ABCC11 SNP determining earwax type." Mol Biol Evol. 28\(1\):849-57. ↗](#)
- [Schwaab M et al. \(2011\). "Human antimicrobial proteins in ear wax." Eur J Clin Microbiol Infect Dis. 30\(8\):997-1004. ↗](#)
- [Tomita H et al. \(2002\). "Mapping of the wet/dry earwax locus to the pericentromeric region of chromosome 16." Lancet. 359\(9322\):2000-2. ↗](#)
- [Yoshiura K et al. \(2006\). "A SNP in the ABCC11 gene is the determinant of human earwax type." Nat Genet. 38\(3\):324-30. ↗](#)

## Change Log

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

Date	Change
<b>Dec. 15, 2017</b>	Earwax Type report updated with revised content and design.
<b>June 22, 2017</b>	Earwax Type report separated from the Physical Characteristics report.
<b>May 12, 2016</b>	Customers with a "Not Determined" genotype for the genetic marker used for Earwax Type previously received a result for that trait based on the typical genotype. These customers will now receive a "Not Determined" result.
<b>Oct. 21, 2015</b>	Physical Characteristics report created.



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