

# Hair Color

Many genes influence how light or dark your hair is, but just one gene is the most common cause of red hair.

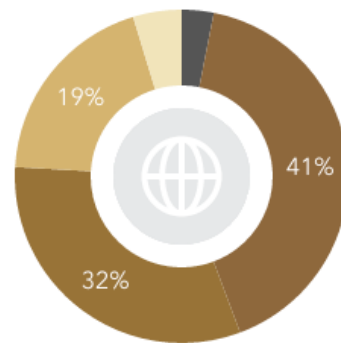
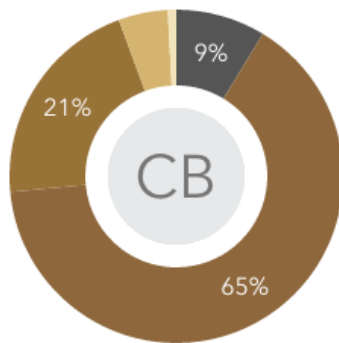
[Light or Dark Hair](#)

[Red Hair](#)

[What You Can Do](#)






## Cordell, you are likely to have dark hair.

74% of customers who are genetically similar to you have black or dark brown hair.






### Your genetic likelihood

**74%**  
Dark

	Black	9%
	Dark brown	65%
	Light brown	21%
	Dark blond	5%
	Light blond	< 1%

### European ancestry customers

3%  
41%  
32%  
19%  
5%

Black	
Dark brown	
Light brown	
Dark blond	
Light blond	

**56%**  
Light

This prediction is most applicable to customers of European descent. We analyzed data from over 50,000 customers who consented to research to identify genetic markers associated with hair color. Our prediction is based on your genotype at 42 genetic markers as well as your age and sex.

# About Light or Dark Hair

Light hair is paler or yellower in shade than dark or black hair. In this report, light hair ranges from blond to light brown.



## Biology

The color of your hair is determined by a pigment named melanin. Dark hair results from high levels of the brown-black form of melanin, whereas lower levels result in lighter hair.



## History

The earliest humans likely had black hair. As certain populations migrated out of Africa and into Europe, hair color diversified into the range of light to dark we see today.



## Other factors

Other factors can contribute to hair color.



Genetics



Sunlight exposure

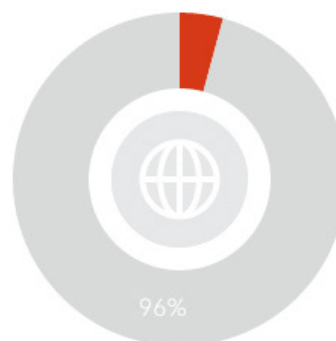
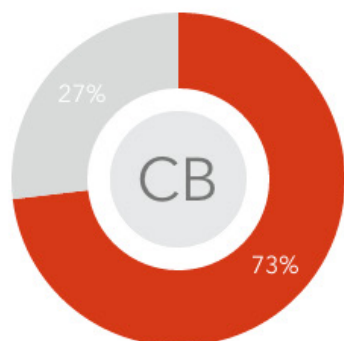


Old age

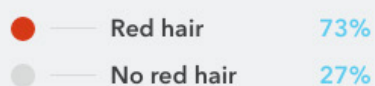


# You are likely to have red hair.

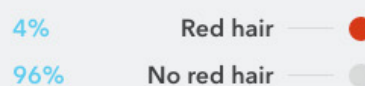
73% of customers who are genetically similar to you have red hair.



## Your genetic likelihood



## European ancestry customers



This prediction best applies to people of European descent. We analyzed your DNA at three genetic markers that studies have shown are associated with red hair. Your prediction is based on data from 23andMe customers who consented to research and are genetically similar to you at these markers.

# About Red Hair

Hair that is red or orange in color is relatively rare compared to hair that is blond, brown, or black.



## Biology

Melanin is the pigment that determines the color of your hair. It comes in two forms: brown-black and yellow-red. People with naturally red hair have higher levels of the yellow-red form.

Forms of melanin

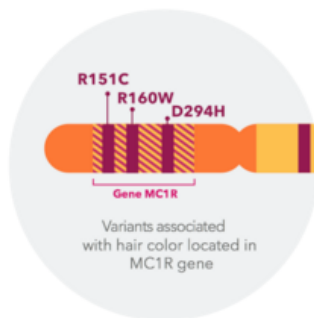


Brown-black Yellow-red



## Genetics

The MC1R gene plays a role in determining how much of the two types of melanin you make. Variants in the MC1R gene result in less brown-black and more red-yellow melanin, which can increase your chance of having red hair.



## Other factors

Other factors are related to red hair.



History



Ancestry



Age



## Do more with your Traits results.



Help us develop more trait reports by contributing to research.

Contribute



Compare your results to your family and friends.

Compare



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

Discuss

 Patent Pending

Your Hair

## Scientific Details

[Methodology](#)

[About Your Results](#)

[References](#)

We use 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 Light or Dark Hair result

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

## About the Light or Dark Hair model

Created based on customers of ethnicity: European  
Number of customers used to create: 60,000  
Number of markers: 42  
Area Under Curve (AUC): 0.7  
Non-genetic factors: Age, Sex

Bin #	Black	Dark brown	Light brown	Dark blond	Light blond
1	0.26%	12.54%	25.43%	45.27%	16.50%
2	0.43%	16.37%	31.72%	39.67%	11.82%
3	0.72%	20.79%	33.29%	35.32%	9.89%
4	0.49%	24.32%	34.89%	33.09%	7.20%
5	0.82%	27.59%	35.38%	29.33%	6.87%
6	0.95%	31.16%	35.84%	26.81%	5.24%
7	1.18%	32.44%	37.15%	24.32%	4.91%
8	0.92%	34.70%	38.23%	21.96%	4.19%
9	1.21%	37.48%	36.50%	20.69%	4.12%
10	1.44%	39.84%	36.17%	18.85%	3.70%
11	1.51%	42.82%	35.22%	17.09%	3.37%
12	2.13%	43.96%	35.32%	16.10%	2.49%
13	2.82%	47.23%	34.08%	13.45%	2.42%
14	2.98%	50.70%	30.64%	13.06%	2.62%
15	3.57%	52.37%	32.08%	9.79%	2.19%
16	3.96%	55.24%	29.54%	9.63%	1.64%
17	5.57%	57.20%	27.77%	7.76%	1.70%
18	6.97%	61.03%	24.72%	6.22%	1.05%
19	8.68%	64.83%	20.89%	4.78%	0.82%
20	15.88%	66.99%	14.47%	2.23%	0.43%
Overall European	3.12%	40.98%	31.47%	19.77%	4.66%

# About your Red Hair result

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

Variants Detected

2

View All Tested Markers

3

Marker Tested

Your Genotype\*

Additional Information

**D294H**

Gene: MC1R

Marker: [i3002507](#)

**C**

Variant copy from  
one of your  
parents



**C**

Variant copy from  
your other parent

> **Biological explanation**

> **Typical vs. variant DNA sequence(s)**

> **Percent of 23andMe customers with variant**

> **References** [ [4](#), [12](#), [13](#), [15](#) ]

\*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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