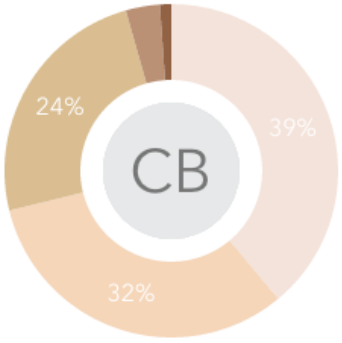
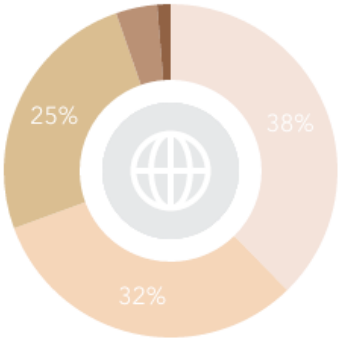
Pigmentation

The colors of our skin can be amazingly diverse. From dark to light to freckled, our pigmentation is heavily influenced by our DNA.

Cordell, you are likely to have lighter skin.

95% of customers who are genetically similar to you have fair to beige skin.





Your genetic likelihood			European ancestry customers		
95% Lighter skin	Very fair	39%	38%	Very fair	95% Lighter skin
	Moderately fair	32%	32%	Moderately fair	
	Light beige	24%	25%	Light beige	
	Olive	3%	4%	Olive	
	Light brown	1%	1%	Light brown	
	Dark brown	< 1%	< 1%	Dark brown	

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

About Skin Pigmentation

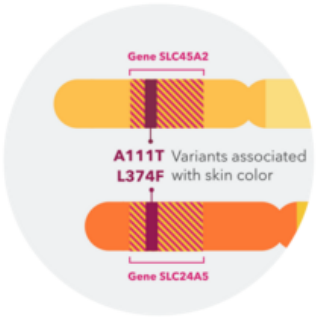
Darker-colored skin includes shades from olive to dark brown, while lighter-colored skin includes beige and fair skin.

Biology

Melanin, the pigment responsible for eye and hair color, also determines skin color. More melanin results in darker skin, while less melanin leads to lighter skin.

Genetics

Variants in two genes named SLC45A2 and SLC24A5 are associated with variation in skin color in people of European and African descent. These two genes are important for proper functioning of cells that produce melanin.



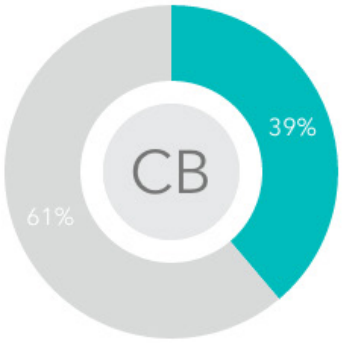
Other factors

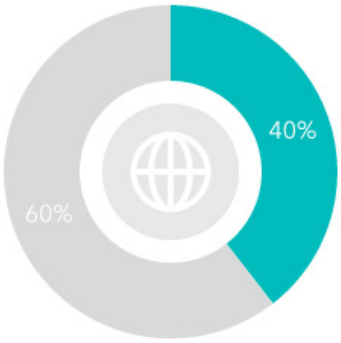
Other factors can also contribute to your skin color.

- History >
- Ancestry >
- Sunlight exposure >

You are not likely to have lots of freckles.

61% of customers who are genetically similar to you have only a few freckles anywhere on their bodies.





Your genetic likelihood	
A lot of freckles	39%
Little freckling	61%

European ancestry customers	
40%	A lot of freckles
60%	Little freckling

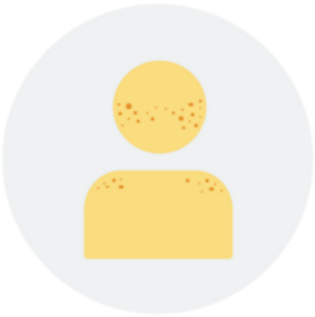
This prediction best applies to customers of European descent. We analyzed data from over 150,000 customers who consented to research in order to identify genetic markers associated with having freckles. Our prediction is based on your genotype at 34 genetic markers as well as your age and sex.

About Freckles

Freckles are small spots of darker skin. They are usually flat and may vary in color from red to tan or light brown.

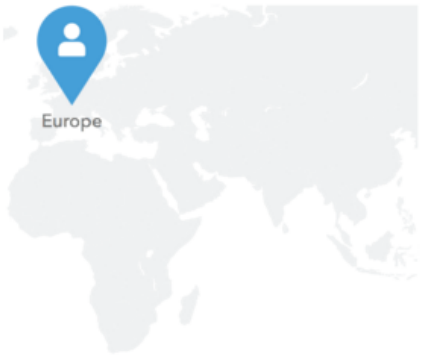
Biology

Freckles are caused by increased production of a pigment called melanin, the same type of chemical that gives color to your hair and eyes.



Ancestry

Although freckles are commonly observed in people of European descent with light skin, they may also be found in numerous populations around the world.



Other factors

Multiple factors contribute to freckling.

- Genetics >
- Age >
- Sun exposure >

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 Skin

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 Skin Pigmentation result

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

Variants Detected	View All Tested Markers
4	2

Marker Tested	Your Genotype*			Additional Information
A111T Gene: SLC24A5 Marker: rs1426654	**A** Variant copy from one of your parents		**A** Variant copy from your other parent	> **Biological explanation** > **Typical vs. variant DNA sequence(s)** > **Percent of 23andMe customers with variant** > **References** [2, 5, 10, 11]
L374F Gene: SLC45A2 Marker: rs16891982	**G** Variant copy from one of your parents		**G** Variant copy from your other parent	> **Biological explanation** > **Typical vs. variant DNA sequence(s)** > **Percent of 23andMe customers with variant** > **References** [2, 7, 10, 11]

*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.

About your Freckles result

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

About the Freckles model

Created based on customers of ethnicity: European
Number of customers used to create: 150,000
Number of markers: 34
Area Under Curve (AUC): 0.662
Non-genetic factors: Age, Sex

Bin #	A lot of freckles	Little freckling
1	15.67%	84.33%
2	19.12%	80.88%
3	22.52%	77.48%
4	23.55%	76.45%
5	26.90%	73.10%
6	27.80%	72.20%
7	30.22%	69.78%
8	31.73%	68.27%
9	34.95%	65.05%
10	36.80%	63.20%
11	38.81%	61.19%
12	40.01%	59.99%
13	42.78%	57.22%
14	45.48%	54.52%
15	47.92%	52.08%
16	50.63%	49.37%
17	54.34%	45.66%
18	58.18%	41.82%
19	62.78%	37.22%
20	73.34%	26.66%
Overall European	39.18%	60.82%

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