

Ancestry Composition

Scientific Details

How we calculate your ancestral breakdown

To determine your ancestral breakdown, we use an algorithm that individually looks at short pieces of DNA across your genome. We compare each piece to DNA sequences from 31 ancestral reference populations from around the world, which include over 10,000 individuals with known ancestry. When a piece of your DNA resembles the DNA from a specific reference population with a high degree of certainty, it is assigned to that population. Sometimes a piece of DNA resembles reference DNA from several populations, in which case it is assigned to a "broad" ancestry (e.g. Northwestern European). The results of these assignments are tallied across your genome to determine your results.

Read our [Ancestry Composition Guide](#) or our [white paper](#) for more information about how we assign your DNA to different ancestries.



How we determine your recent ancestor locations

To determine your recent ancestor locations, we look for identical pieces of DNA that you have in common with individuals of known ancestry from over 120 countries and territories in Europe, Africa, the Americas, Asia, and Oceania. If you share identical DNA segments with five or more individuals from a specific location (excluding your close relatives), that location is assigned to you. The strength of that assignment (the "match strength") is determined by how much of your DNA you share with people from that location, adjusting for the number of people that we compared you with. When interpreting your results, keep in mind the following:

- Country borders have changed a lot even within the past 100 years, which can sometimes produce counter-intuitive results.
- If you don't see an expected ancestry location, that doesn't necessarily mean that you don't have ancestors who lived there. It could simply mean that you do not have enough shared DNA with our reference dataset for us to confidently assign that location to you.
- We determine these results in real time, meaning that new locations can arise as our database grows and you should expect to see changes to your results over time.

Have more questions? Check out the [Frequently Asked Questions](#) section.

Your Results for All 171 Tested Populations

Population	Match Strength	Percent
European		98.5%
Italian		51.4%
Italy	● ○ ○ ○ ○	
Malta	○ ○ ○ ○ ○	
French & German		20.5%
Although we've detected French & German DNA in your ancestral breakdown, we have not identified more specific locations that your recent ancestors may have called home.		
Austria	○ ○ ○ ○ ○	
Belgium	○ ○ ○ ○ ○	
France	○ ○ ○ ○ ○	
Germany	○ ○ ○ ○ ○	
Luxembourg	○ ○ ○ ○ ○	
Netherlands	○ ○ ○ ○ ○	
Switzerland	○ ○ ○ ○ ○	
Balkan		3.8%
Greece	● ○ ○ ○ ○	
Albania	○ ○ ○ ○ ○	
Bosnia and Herzegovina	○ ○ ○ ○ ○	
Bulgaria	○ ○ ○ ○ ○	
Croatia	○ ○ ○ ○ ○	
Macedonia	○ ○ ○ ○ ○	
Moldova	○ ○ ○ ○ ○	
Montenegro	○ ○ ○ ○ ○	
Romania	○ ○ ○ ○ ○	
Serbia	○ ○ ○ ○ ○	
Eastern European		2.9%
Although we've detected Eastern European DNA in your ancestral breakdown, we have not identified more specific locations that your recent ancestors may have called home.		
Belarus	○ ○ ○ ○ ○	

Czech Republic	○ ○ ○ ○ ○	
Estonia	○ ○ ○ ○ ○	
Hungary	○ ○ ○ ○ ○	
Latvia	○ ○ ○ ○ ○	
Lithuania	○ ○ ○ ○ ○	
Poland	○ ○ ○ ○ ○	
Russia	○ ○ ○ ○ ○	
Slovakia	○ ○ ○ ○ ○	
Slovenia	○ ○ ○ ○ ○	
Ukraine	○ ○ ○ ○ ○	
Iberian		2.2%
Although we've detected Iberian DNA in your ancestral breakdown, we have not identified more specific locations that your recent ancestors may have called home.		
Portugal	○ ○ ○ ○ ○	
Spain	○ ○ ○ ○ ○	
Sardinian		1.6%
Ashkenazi Jewish		0.0%
British & Irish		0.0%
Ireland	○ ○ ○ ○ ○	
United Kingdom	○ ○ ○ ○ ○	
Finnish		0.0%
Finland	○ ○ ○ ○ ○	
Scandinavian		0.0%
Denmark	○ ○ ○ ○ ○	
Iceland	○ ○ ○ ○ ○	
Norway	○ ○ ○ ○ ○	
Sweden	○ ○ ○ ○ ○	
Broadly Southern European		7.8%
Broadly Northwestern European		4.9%
Broadly European		3.6%
Western Asian & North African		1.2%
Western Asian		1.1%

Although we've detected Western Asian DNA in your ancestral breakdown, we have not identified more specific locations that your recent ancestors may have called home.

Armenia	○ ○ ○ ○ ○	
Azerbaijan	○ ○ ○ ○ ○	
Cyprus	○ ○ ○ ○ ○	
Georgia	○ ○ ○ ○ ○	
Iran	○ ○ ○ ○ ○	
Iraq	○ ○ ○ ○ ○	
Lebanon	○ ○ ○ ○ ○	
Syria	○ ○ ○ ○ ○	
Turkey	○ ○ ○ ○ ○	
Uzbekistan	○ ○ ○ ○ ○	
North African & Arabian		0.0%
Algeria	○ ○ ○ ○ ○	
Bahrain	○ ○ ○ ○ ○	
Egypt	○ ○ ○ ○ ○	
Jordan	○ ○ ○ ○ ○	
Kuwait	○ ○ ○ ○ ○	
Libya	○ ○ ○ ○ ○	
Morocco	○ ○ ○ ○ ○	
Saudi Arabia	○ ○ ○ ○ ○	
Tunisia	○ ○ ○ ○ ○	
United Arab Emirates	○ ○ ○ ○ ○	
Yemen	○ ○ ○ ○ ○	
Broadly Western Asian & North African		0.1%
East Asian & Native American		0.1%
Chinese		0.0%
Mainland China	○ ○ ○ ○ ○	
Taiwan	○ ○ ○ ○ ○	
Chinese Dai		0.0%
Filipino & Austronesian		0.0%
American Samoa	○ ○ ○ ○ ○	
Guam	○ ○ ○ ○ ○	
Madagascar	○ ○ ○ ○ ○	
Northern Mariana Islands	○ ○ ○ ○ ○	

Philippines	○○○○○	
Samoa	○○○○○	
Tonga	○○○○○	
Indonesian, Thai, Khmer & Myanma		0.0%
Cambodia	○○○○○	
Indonesia	○○○○○	
Malaysia	○○○○○	
Myanmar	○○○○○	
Thailand	○○○○○	
Japanese		0.0%
Japan	○○○○○	
Korean		0.0%
North Korea	○○○○○	
South Korea	○○○○○	
Manchurian & Mongolian		0.0%
Kazakhstan	○○○○○	
Kyrgyzstan	○○○○○	
Mongolia	○○○○○	
Native American		0.0%
Argentina	○○○○○	
Aruba	○○○○○	
Belize	○○○○○	
Bolivia	○○○○○	
Brazil	○○○○○	
Chile	○○○○○	
Colombia	○○○○○	
Costa Rica	○○○○○	
Cuba	○○○○○	
Dominican Republic	○○○○○	
Ecuador	○○○○○	
El Salvador	○○○○○	
Guatemala	○○○○○	
Honduras	○○○○○	
Mexico	○○○○○	

Nicaragua	○○○○○	
Panama	○○○○○	
Paraguay	○○○○○	
Peru	○○○○○	
Puerto Rico	○○○○○	
Uruguay	○○○○○	
Venezuela	○○○○○	
Siberian		0.0%
Vietnamese		0.0%
Vietnam	○○○○○	
Broadly Chinese & Southeast Asian		0.0%
Laos	○○○○○	
Broadly Japanese & Korean		0.0%
Broadly Northern Asian & Native American		0.0%
Broadly East Asian & Native American		0.1%
Melanesian		0.0% ▾
Broadly Melanesian		0.0%
Fiji	○○○○○	
South Asian		0.0% ▾
Broadly South Asian		0.0%
Afghanistan	○○○○○	
Bangladesh	○○○○○	
India	○○○○○	
Mauritius	○○○○○	
Nepal	○○○○○	
Pakistan	○○○○○	
Sri Lanka	○○○○○	
Sub-Saharan African		0.0% ▾
African Hunter-Gatherer		0.0%
Coastal West African		0.0%
Ghana	○○○○○	

Liberia	○ ○ ○ ○ ○	
Congolese		0.0%
Congo (the Democratic Republic of the)	○ ○ ○ ○ ○	
Ethiopian & Eritrean		0.0%
Eritrea	○ ○ ○ ○ ○	
Ethiopia	○ ○ ○ ○ ○	
Nigerian		0.0%
Nigeria	○ ○ ○ ○ ○	
Senegambian & Guinean		0.0%
Guinea	○ ○ ○ ○ ○	
Somali		0.0%
Somalia	○ ○ ○ ○ ○	
Southern East African		0.0%
Kenya	○ ○ ○ ○ ○	
Rwanda	○ ○ ○ ○ ○	
Sudanese		0.0%
South Sudan	○ ○ ○ ○ ○	
Sudan	○ ○ ○ ○ ○	
Broadly Congolese & Southern East African		0.0%
Broadly Northern East African		0.0%
Broadly West African		0.0%
Cabo Verde	○ ○ ○ ○ ○	
Cameroon	○ ○ ○ ○ ○	
Broadly Sub-Saharan African		0.0%
Unassigned		0.2%

There is a wide range of human diversity out there, and sometimes our algorithm can't pinpoint a region of your DNA to a specific population. Bear with us as our data and resources continue to expand. We expect the amount of unassigned ancestry our customers see to decrease.

Our Reference Datasets

This table shows the number of reference individuals used to define each broad ancestry population. The reference datasets are made up of over 10,000 people, including publicly available data from the [Human Genome Diversity Project](#), [HapMap](#), and the [1000 Genomes project](#), as well as a large number of 23andMe customers who have consented to participate in research.

Population	23andMe Customers	Public Data*	Total Individuals
East Asian & Native American			
Northern Asian & Native American, Native American (Colombian, Karitiana, Maya, Pima, Surui, Guatemalan), Japanese & Korean, Japanese, Korean (North Korean, South Korean), Siberian, Manchurian & Mongolian (Daur, Mongolian, Oroqen), Chinese & Southeast Asian, Chinese Dai, Chinese (Chinese, Han, Hong Kongese, Taiwanese), Indonesian, Khmer, Thai & Myanma (Indonesian, Cambodian, Thai, Myanma, Malaysian), Filipino & Austronesian, Vietnamese	1647	684	2331
European			
Southern European, Italian (Italian, Northern Italian, Tuscan), Balkan (Albanian, Bosnian and Herzegovinian, Bulgarian, Croatian, Greek, Kosovan, Macedonian, Maltese, Moldovan, Montenegrin, Romanian, Serbian), Sardinian, Iberian (Gibraltarian, Portuguese, Spanish), Northwestern European, British & Irish (Irish, United Kingdom), French & German (Austrian, French, German, Belgian, Dutch, Swiss), Scandinavian (Danish, Faroese, Icelandic, Norwegian, Swedish), Finnish, Ashkenazi, Eastern European (Belarusian, Czech, Estonian, Hungarian, Latvian, Lithuanian, Polish, Russian, Slovak, Slovene, Ukrainian)	6172	368	6540
Melanesian			
Broadly Melanesian (Non-Austronesian Melanesian, Papuan)	0	29	29
South Asian			
Broadly South Asian (Balochi, Bangladeshi, Brahui, Burusho, Indian, Makrani, Pakistani, Pathan, Sindhi, Sri Lankan)	878	144	1022

Population	23andMe Customers	Public Data*	Total Individuals
Sub-Saharan African African Hunter-Gatherer (Biaka, Mbuti, San), Congolese & Southern East African, Southern East African (Kenyan, Burundian, Kenyan Luhya, Rwandan, Tanzanian, Ugandan), Congolese, Northern East African, Somali, Ethiopian & Eritrean, Sudanese, West African, Nigerian (Nigerian, Yoruba, Esan), Coastal West African (Ivorian, Ghanaian, Liberian, Mende, Temne, Limba, Sierra Leonean), Senegambian & Guinean (Gambian, Guinean, Bissau-Guinean, Mandenka, Senegalese)	1526	639	2165
Western Asian & North African Western Asian (Armenian, Azerbaijani, Cypriot, Georgian, Druze, Iranian, Iraqi, Lebanese, Turkish, Syrian), North African & Arabian (Algerian, Bedouin, Egyptian, Emirati, Jordanian, Kuwaiti, Libyan, Moroccan, Mozabite, Omani, Palestinian, Qatari, Saudi Arabian, Tunisian, Yemeni)	792	152	944

* Public Reference Set includes HGDP, 1000 Genomes, HapMap3

Change Log

Your results are regularly updated based on new information. See the record of your result recalculations below.

Ancestry Composition v3.0

Results last computed on September 29, 2018

Genotyping chip: Version 5

Sep 29, 2018

Your genetic results were first available from 23andMe.

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