

Paternal Haplogroup

You descend from a long line of male ancestors that can be traced back to eastern Africa over 275,000 years ago. These are the people of your paternal line, and your paternal haplogroup sheds light on their story.

Summary Scientific Details



Jamie, your paternal haplogroup is O-Z24050.

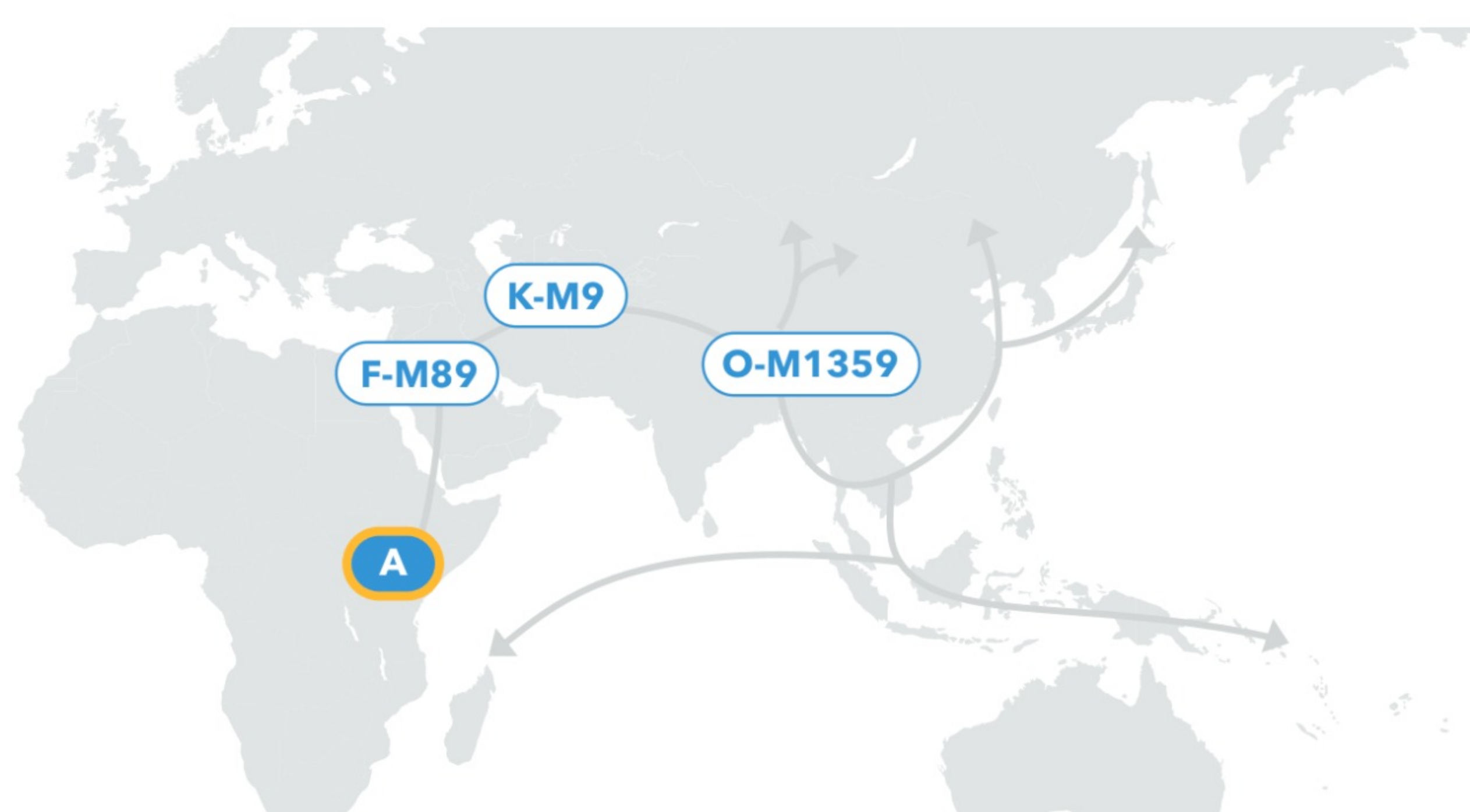
As our ancestors ventured out of eastern Africa, they branched off in diverse groups that crossed and recrossed the globe over tens of thousands of years. Some of their migrations can be traced through haplogroups, families of lineages that descend from a common ancestor. Your paternal haplogroup can reveal the path followed by the men of your paternal line.

Migrations of Your Paternal Line

- A**
275,000 Years Ago
- F-M89**
76,000 Years Ago
- K-M9**
53,000 Years Ago
- O-M1359**
45,000 Years Ago

Haplogroup A

The stories of all of our paternal lines can be traced back over 275,000 years to just one man: the common ancestor of haplogroup A. Current evidence suggests he was one of thousands of men who lived in eastern Africa at the time. However, while his male-line descendants passed down their Y chromosomes generation after generation, the lineages from the other men died out. Over time his lineage alone gave rise to all other haplogroups that exist today.



- O-M268**
30,000 Years Ago

Origin and Migrations of Haplogroup O-M268

Your paternal lineage stems from haplogroup O-M268, a major branch within haplogroup O. Haplogroup O is one of the world's largest paternal lineages, comprising over 25% of all men. In fact, haplogroup O is the predominant haplogroup in Asia. This widespread lineage originated in East Asia 38,000-45,000 years ago, and later spread into Taiwan, Indonesia, Melanesia, Micronesia, and Polynesia. By contrast, haplogroup O1-P31 is slightly younger, and slightly less widespread, than haplogroup O. Haplogroup O-M268 likely arose 29,000-34,000 years ago in East Asia (perhaps southern China), where it is nearly exclusively found today.

Within East Asia, O-M268 is more dispersed than the other branches of haplogroup O. It likely originated in southeastern Asia but expanded into India to the west and Japan and Siberia to the north. One of its branches is common in southeastern Asia and Indonesia. The other is found among the Japanese, Koreans and the Manchus of northeastern China. Almost a third of Japanese men carry O-M268, which probably expanded during the Yayoi migration of agricultural groups from the Korean peninsula to Japan about 2,300 years ago.

- O-Z24050**
< 30,000 Years Ago

Your paternal haplogroup, O-Z24050, traces back to a man who lived less than 30,000 years ago.

That's nearly 1200 generations ago! What happened between then and now? As researchers and citizen scientists discover more about your haplogroup, new details may be added to the story of your paternal line.

- O-Z24050**
Today

O-Z24050 is rare among 23andMe customers.

Today, you share your haplogroup with all the men who are paternal-line descendants of the common ancestor of O-Z24050, including other 23andMe customers.

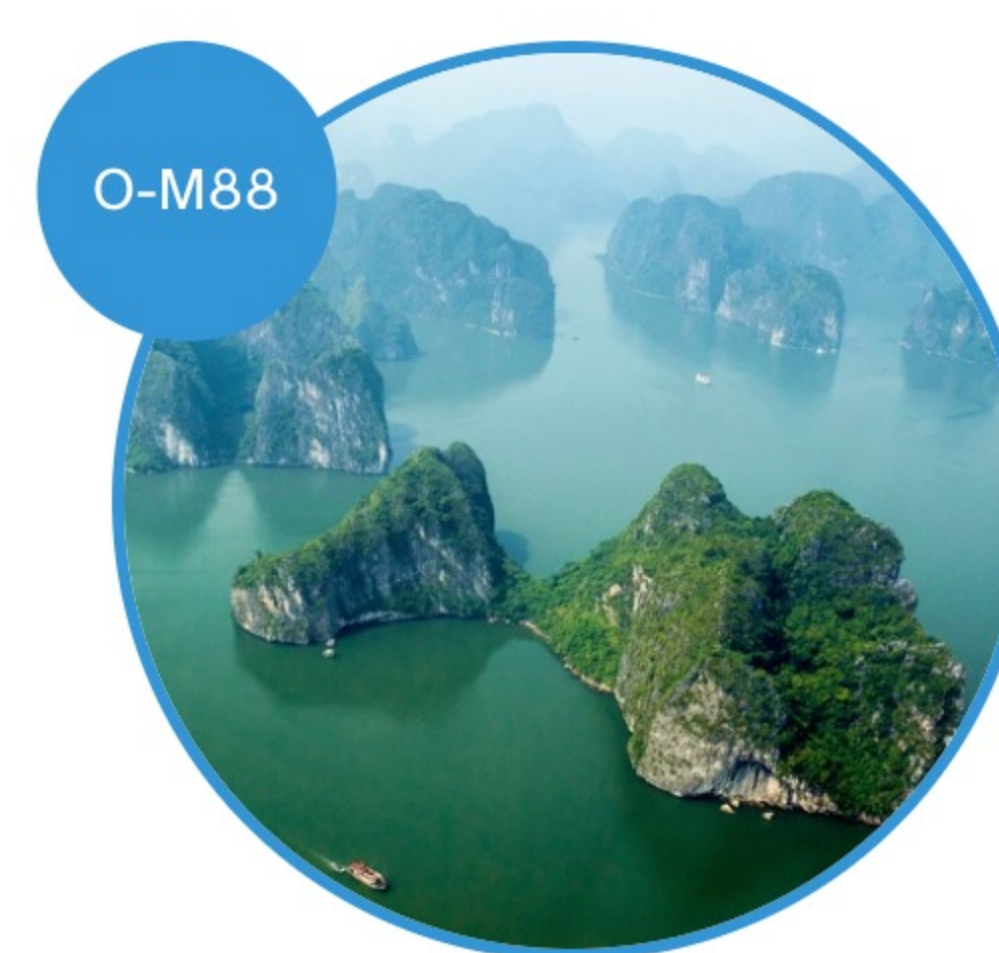
1 in 10,000

23andMe customers share your haplogroup assignment.

[See references](#)

Haplogroup O-M88 and the origin of the Cham.

One of the many populations harboring members of your haplogroup is the Cham ethnic group, a group of people who speak Austronesian languages in Mainland Southeast Asia. Austronesian languages make up a language family that is extremely large and widespread, comprising over 350 million people on islands such as Madagascar, Easter Island, and many others. However, Austronesian languages are less common on mainland Asia, with a notable exception being the Chamic language. Research suggests that ancestors of the Cham people migrated from Southeast Asian islands to the mainland around the year 500 BCE, and that early Cham populations quickly began mixing with indigenous southern Vietnamese populations. As a result, the Chamic language now has words that were borrowed from languages spoken by indigenous Vietnamese people. It is likely that an ancestral Kinh population was one of the populations that mixed with the Cham people shortly after their migration to mainland Asia.



[See references](#)

The Genetics of Paternal Haplogroups

The Y Chromosome

Paternal Inheritance

Paternal Haplogroup Tree

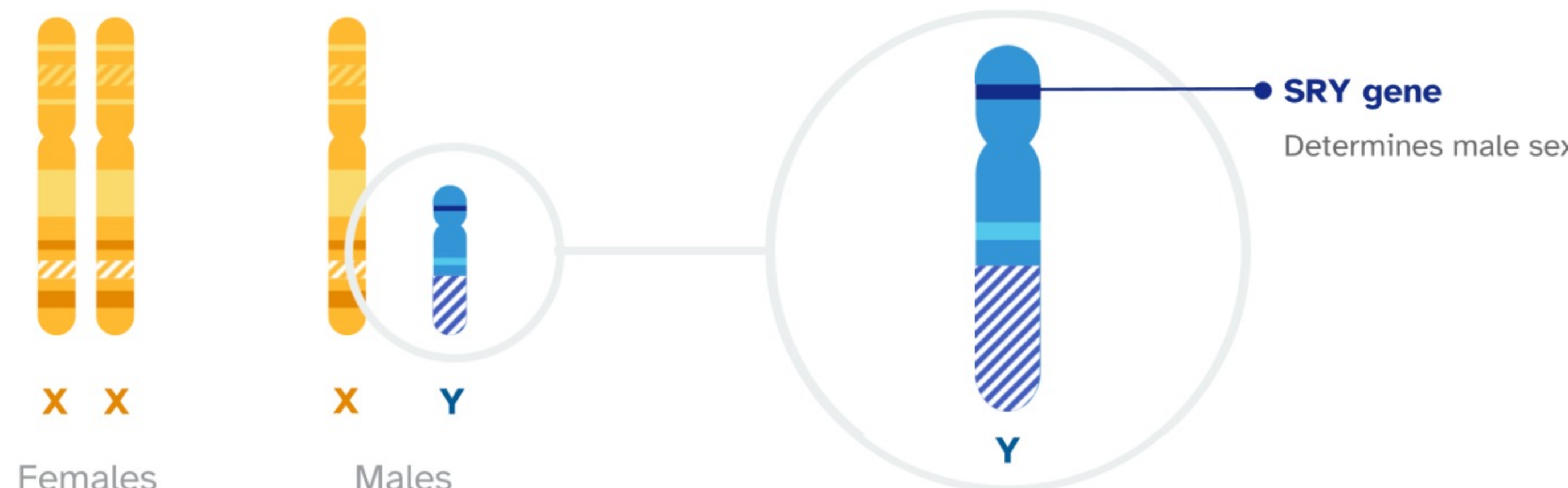
Tracing Male Migrations

The Y Chromosome

Most of the DNA in your body is packaged into 23 pairs of chromosomes. The first 22 pairs are matching, meaning that they contain roughly the same DNA inherited from both parents. The 23rd pair is different because in males, the pair does not match. The chromosomes in this pair are known as "sex" chromosomes and they have different names: X and Y. Typically, females have two X chromosomes and males have one X and one Y.

Your genetic sex is determined by which sex chromosome you inherited from your father. If you are genetically male, you received a copy of your father's Y chromosome along with a gene known as SRY (short for sex-determining region Y) that is important for male sexual development. If you are genetically female, you received a copy of the X chromosome from both of your parents.

The Y Chromosome is used to determine paternal haplogroups



Do more with your Haplogroup results.



Take survey

Contribute to research and help us understand genetic variation around the world.



Trace your paternal line

Visit DNA Relatives to identify relatives that may be on your paternal line.



Give the gift of DNA discovery.

Gift a kit

Refer friends, earn rewards.

Get reward

ANCESTRY & TRAITS

- Ancestry & Traits Overview
- All Ancestry Reports
- Ancestry Composition
- DNA Relatives
- Traits
- Order Your DNA Book

HEALTH

- Health Overview
- All Health Reports
- My Health Action Plan
- Health

RESEARCH

- Research Overview
- Surveys and Studies
- Edit Answers
- Publications

FAMILY & FRIENDS

- View all DNA Relatives
- Family Tree
- Your Connections
- GrandTree
- Advanced DNA Comparison

Paternal Haplogroup

You descend from a long line of male ancestors that can be traced back to eastern Africa over 275,000 years ago. These are the people of your paternal line, and your paternal haplogroup sheds light on their story.

Summary Scientific Details

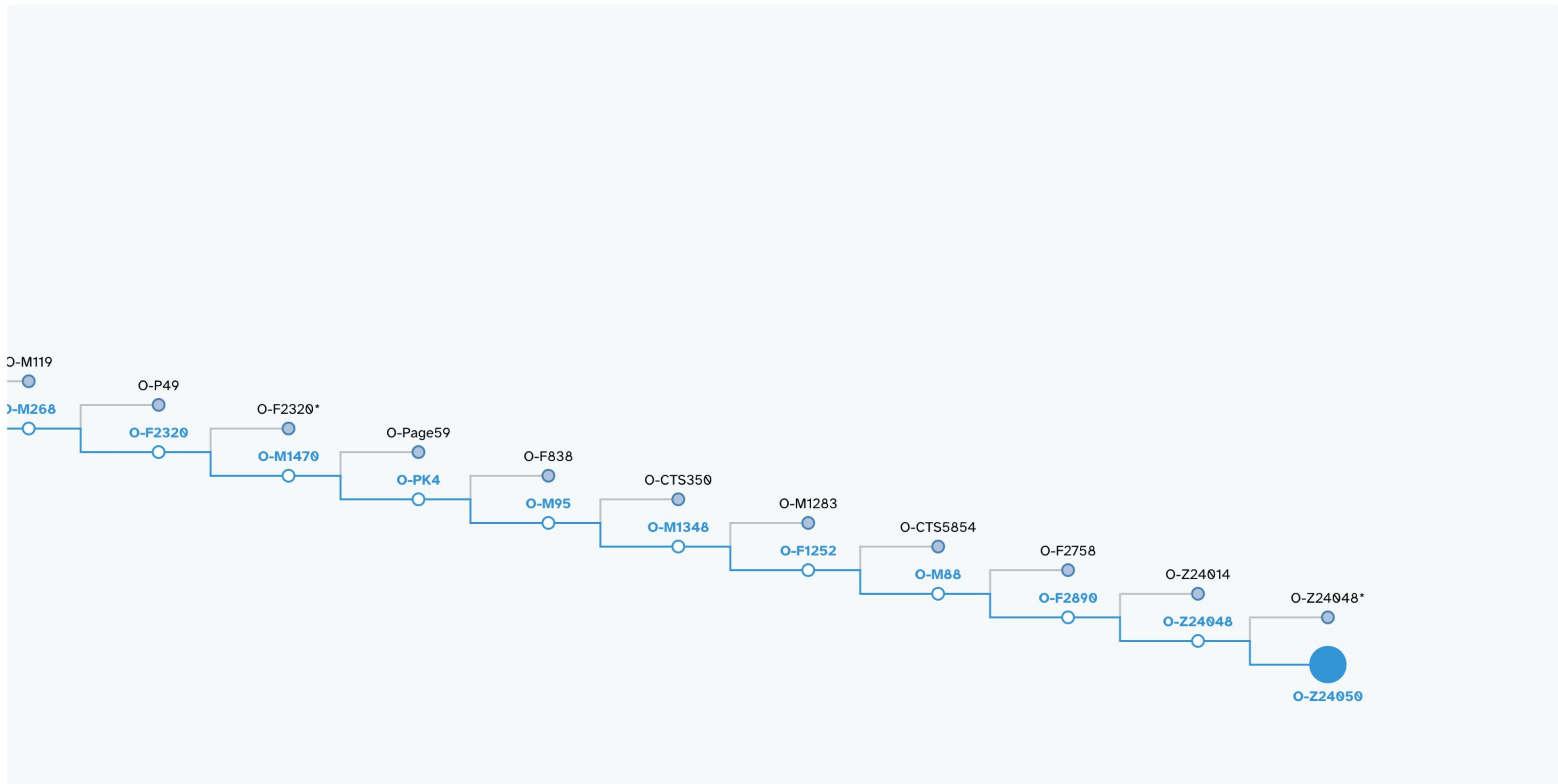
Your haplogroup can tell you about your paternal line.

Each generation, males pass copies of their Y chromosomes on to their male children. Whereas most of the genome exists in two copies that exchange pieces between generations in a process called recombination, the Y chromosome is transmitted unshuffled. Because of this unusual pattern of inheritance, the Y contains rich information about paternal lineages.

A small number of DNA changes, called mutations, generally occur from one generation to the next. Because the Y chromosome does not recombine between generations, these mutations accumulate in patterns that uniquely mark individual lineages, and scientists can compare the resulting sequence differences by constructing a tree. This tree shows how paternal lineages relate to one another, including the observations that all human paternal lineages share a most recent common ancestor approximately 275,000 years ago.

The term "haplogroup" refers to a family of lineages that share a common ancestor and, therefore, a particular set of mutations. Each paternal haplogroup is named with a letter indicating the major cluster of branches to which it belongs, followed by the name of a mutation that is shared by a subset of the major cluster.

We identify your haplogroups by determining which branches of the Y-chromosome tree correspond to your DNA. Because more closely related lineages tend to share geographic roots, your haplogroup can provide insight into the origins of some of your ancient ancestors.



References

- Cinnioğlu C et al. (2004). "Excavating Y-chromosome haplotype strata in Anatolia." *Hum Genet.* 114(2):127-48.
- Cordaux R et al. (2004). "Independent origins of Indian caste and tribal paternal lineages." *Curr Biol.* 14(3):231-5.
- Firasat S et al. (2007). "Y-chromosomal evidence for a limited Greek contribution to the Pathan population of Pakistan." *Eur J Hum Genet.* 15(1):121-6.
- Gayden T et al. (2007). "The Himalayas as a directional barrier to gene flow." *Am J Hum Genet.* 80(5):884-94.
- Hammer MF et al. (2006). "Dual origins of the Japanese: common ground for hunter-gatherer and farmer Y chromosomes." *J Hum Genet.* 51(1):47-58.
- He JD et al. (2012). "Patrilineal perspective on the Austronesian diffusion in Mainland Southeast Asia." *PLoS One.* 7(5):e36437.
- Hurles ME et al. (2005). "The dual origin of the Malagasy in Island Southeast Asia and East Africa: evidence from maternal and paternal lineages." *Am J Hum Genet.* 76(5):894-901.
- Karafet TM et al. (2005). "Balinese Y-chromosome perspective on the peopling of Indonesia: genetic contributions from pre-neolithic hunter-gatherers, Austronesian farmers, and Indian traders." *Hum Biol.* 77(1):93-114.
- Kayser M et al. (2003). "Reduced Y-chromosome, but not mitochondrial DNA, diversity in human populations from West New Guinea." *Am J Hum Genet.* 72(2):281-302.
- Kivisild T et al. (2003). "The genetic heritage of the earliest settlers persists both in Indian tribal and caste populations." *Am J Hum Genet.* 72(2):313-32.

See all references

Change Log

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

Date	Change
July 30, 2018	We updated the paternal haplogroup algorithm to consider an expanded set of variants on the Y chromosome. As a result, certain customers on version 5 of the genotyping chip received updated assignments - most often more precise ones.
Sept. 7, 2017	For customers in certain branches of R1, an outdated story about the possible origins of one paternal lineage in the Ashkenazi Jewish population has been removed.
Aug. 4, 2017	The standalone Paternal Haplogroup report was created, featuring new design elements and content.
May 23, 2017	Certain customers in the E and J branches received updated paternal haplogroup results due to improvements in our assignment algorithm. Additional changes were made to naming conventions used in certain assignments in the K and R branches.
Nov. 15, 2016	The algorithm and naming convention used for assigning paternal haplogroups was updated.
Oct. 21, 2015	Haplogroups report created.



Give the gift of DNA discovery.

Gift a kit

Refer friends, earn rewards.

Get reward

ANCESTRY & TRAITS

- Ancestry & Traits Overview
- All Ancestry Reports
- Ancestry Composition
- DNA Relatives
- Traits
- Order Your DNA Book

HEALTH

- Health Overview
- All Health Reports
- My Health Action Plan
- Health

RESEARCH

- Research Overview
- Surveys and Studies
- Edit Answers
- Publications

FAMILY & FRIENDS

- View all DNA Relatives
- Family Tree
- Your Connections
- GrandTree
- Advanced DNA Comparison