23andMe

Miguel S Alvarez
Paternal Haplogroup

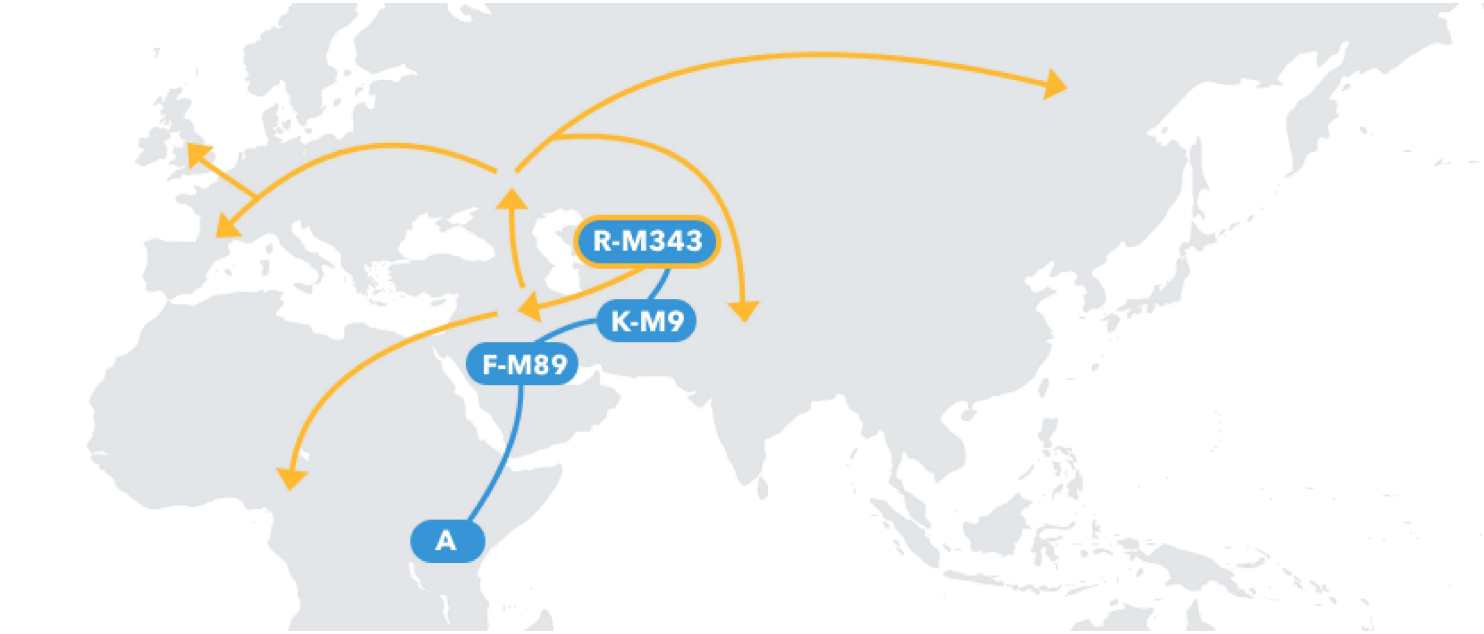
Paternal Haplogroup

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.

Miguel S, your paternal haplogroup is R-L51.

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



275,000 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.

76,000 Years Ago

Haplogroup F-M89

For more than 100,000 years, your paternal-line ancestors gradually moved north, following available prey and resources as a shifting climate made new routes hospitable and sealed off others. Then, around 60,000 years ago, a small group ventured across the Red Sea and deeper into southwest Asia. Your ancestors were among these men, and the next step in their story is marked by the rise of haplogroup F-M89 in the Arabian Peninsula.

53,000 Years Ago

Haplogroup K-M9

Passing through the Middle East, your paternal-line ancestors continued on to the steppes of Central Asia, vast grasslands stretching all the way from central Europe to the eastern edge of Asia. From its origin in the western steppes nearly 50,000 years ago, haplogroup K-M9 spread across most of the globe. In fact, nearly half of all paternal lineages outside of Africa are branches of haplogroup K.

35,000 Years Ago

Haplogroup R-M207

The next step in your story can be to the common ancestor of haplogroup R, a man who likely lived in Central Asia between 30,000 and 35,000 years ago. The Ice Age was still in full swing, and for thousands of years his descendants roamed the vast steppes of the continent, where they hunted huge mammals like the mammoth.

27,000 Years Ago

Haplogroup R-M343

Your ancestral path forked off again between 20,000 and 25,000 years ago in western Asia, at the beginning of the last great peak of the Ice Age. Massive glaciers covered northern Eurasia, but farther south in the Iranian Plateau your ancestors flourished. When the Ice Age finally gave way to our warmer climate nearly 11,500 years ago, a new era of migrations from the Middle East began and eventually carried haplogroup R-M343 across three continents.

10,000 Years Ago

Origin and Migrations of Haplogroup R-M269

Your paternal line stems from a branch of R-M343 called R-M269, one of the most prolific paternal lineages across western Eurasia. R-M269 arose roughly 10,000 years ago, as the people of the Fertile Crescent domesticated plants and animals for the first time. Around 8,000 years ago, the first farmers and herders began to push east into Central Asia and north into the Caucasus Mountains. Some of them eventually reached the steppes above the Black and Caspian Seas. There, they lived as pastoral nomads, herding cattle and sheep across the grasslands, while their neighbors to the south developed yet another crucial technology in human history: bronze smelting. As bronze tools and weaponry spread north, a new steppe culture called the Yamnaya was born.

Around 5,000 years ago, perhaps triggered by a cold spell that made it difficult to feed their herds, Yamnaya men spilled east across Siberia and down into Central Asia. To the west, they pushed down into the Balkans and to central Europe, where they sought new pastures for their herds and metal deposits to support burgeoning Bronze Age commerce. Over time, their descendants spread from central Europe to the Atlantic coast, establishing new trade routes and an unprecedented level of cultural contact and exchange in western Europe.

The men from the steppes also outcompeted the local men as they went; their success is demonstrated in the overwhelming dominance of the R-M269 lineage in Europe. Over 80% of men in Ireland and Wales carry the haplogroup, as do over 60% of men along the Atlantic Coast from Spain to France. The frequency of R-M269 gradually decreases to the east, falling to about 30% in Germany, 20% in Poland, and 10-15% in Greece and Turkey. The haplogroup connects all these men to still others in the Iranian Plateau and Central Asia, where between 5 and 10% of men also bear the lineage.

R-L51

< 10,000 Years Ago

Your paternal haplogroup, R-L51, traces back to a man who lived approximately 10,000 years ago.

That's nearly 400 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.

Today

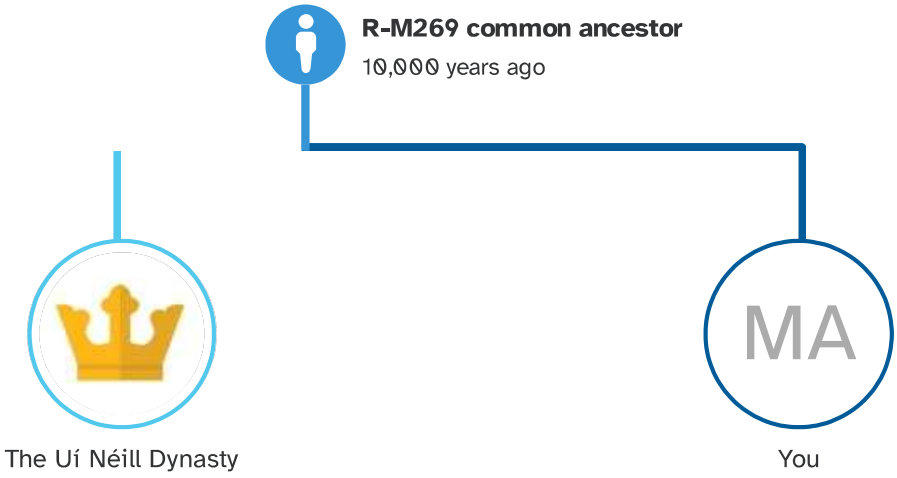
R-L51 is relatively uncommon among 23andMe customers.

Today, you share your haplogroup with all the paternal-line descendants of the common ancestor of R-L51, including other 23andMe customers.

1 in 7,400

23andMe customers share your haplogroup assignment.

You share a paternal-line ancestor with Niall of the Nine Hostages.



The spread of haplogroup R-M269 in northern Ireland and Scotland was likely aided by men like Niall of the Nine Hostages. Perhaps more myth than man, Niall of the Nine Hostages is said to have been a King of Tara in northwestern Ireland in the late 4th century C.E. His name comes from a tale of nine hostages that he held from the regions he ruled over. Though the legendary stories of his life may have been invented hundreds of years after he died, genetic evidence suggests that the Uí Néill dynasty, whose name means "descendants of Niall," did in fact trace back to just one man who bore a branch of haplogroup R-M269.

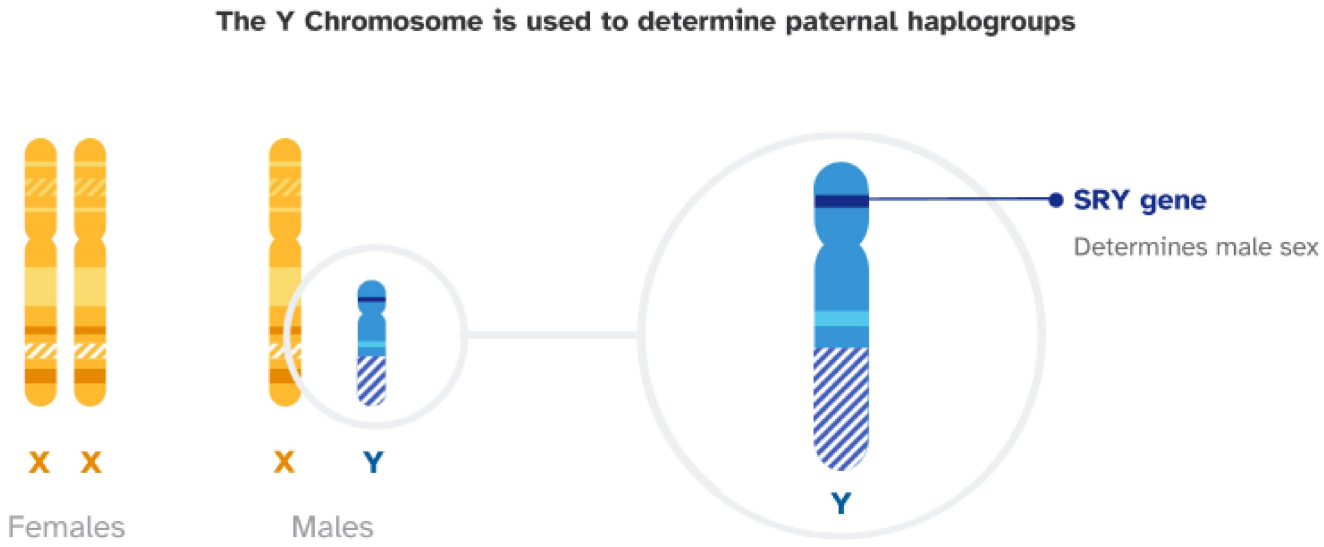
The Uí Néill ruled to various degrees as kings of Ireland from the 7th to the 11th century C.E. In the highly patriarchal society of medieval Ireland, their status allowed them to have outsized numbers of children and spread their paternal lineage each generation. In fact, researchers have estimated that between 2 and 3 million men with roots in north-west Ireland are paternal-line descendants of Niall.

The Genetics of Paternal Haplogroups

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.

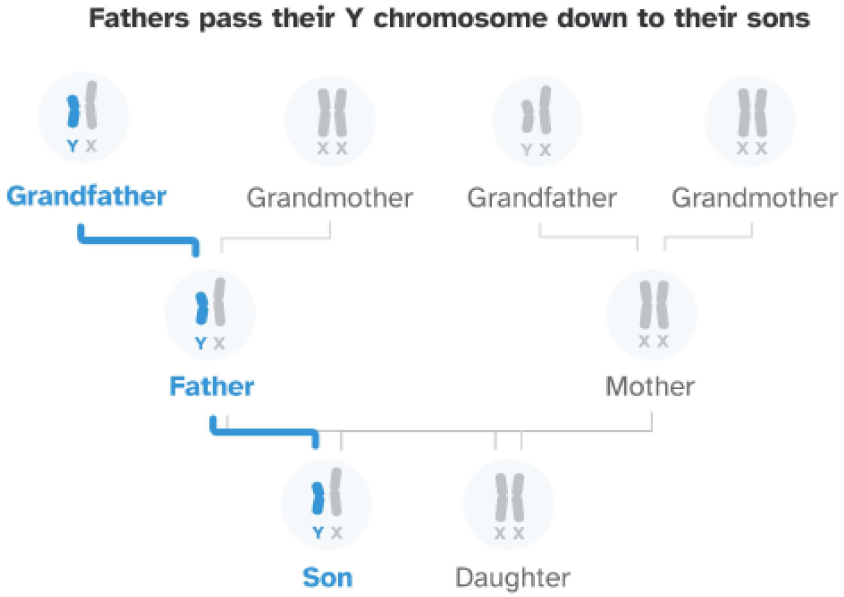
Your genetic sex is determined by which sex chromosome you inherited from your father. If you are genetically male, you received a copy of your father's Y chromosome along with a gene known as SRY (short for *sex-determining region Y*) that is important for male sexual development. If you are genetically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



Paternal Inheritance

Each generation, males pass down copies of their Y chromosomes essentially unchanged to their male children. Between generations, the matching chromosomes in the other 22 pairs make contact and exchange segments of DNA. This process shuffles the genetic information that is passed down from parent to child, making it difficult to trace genealogy over many generations. Except for two tiny sections at the chromosome's tips, however, the Y skips this step. Instead, a nearly identical copy is handed down each time.

But, every so often, small changes to the DNA sequence do occur. These changes, called mutations, create new genetic variants on the Y chromosome. Because the Y does not recombine between generations, these variants collect in patterns that uniquely mark individual paternal lineages.

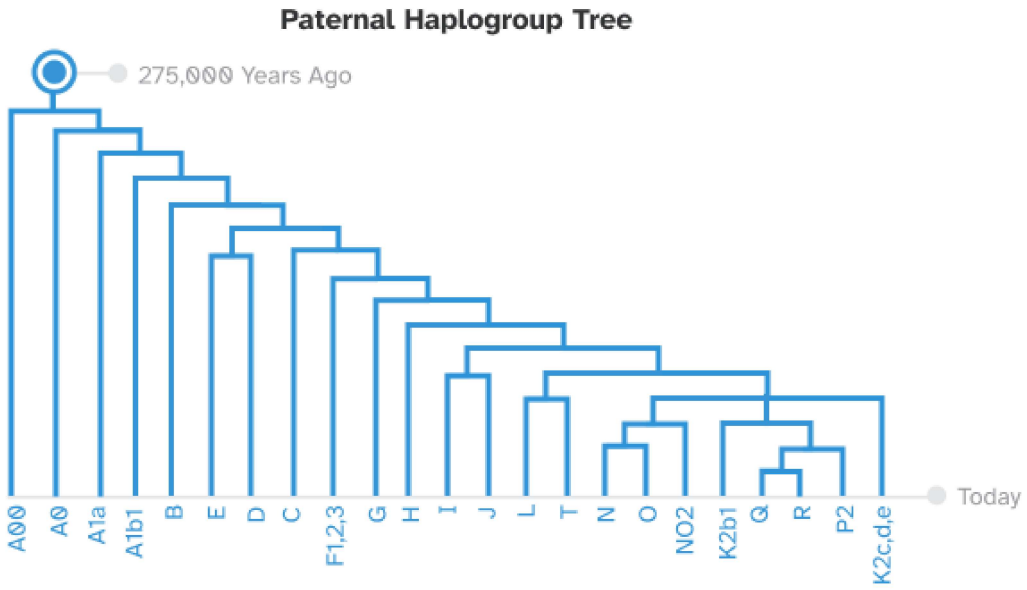


Paternal Haplogroup Tree

To trace the genetic history of paternal lineages, researchers compare the variants found in Y-DNA sequences from around the world. The result is a tree of Y chromosomes that shows how all paternal lines are related.

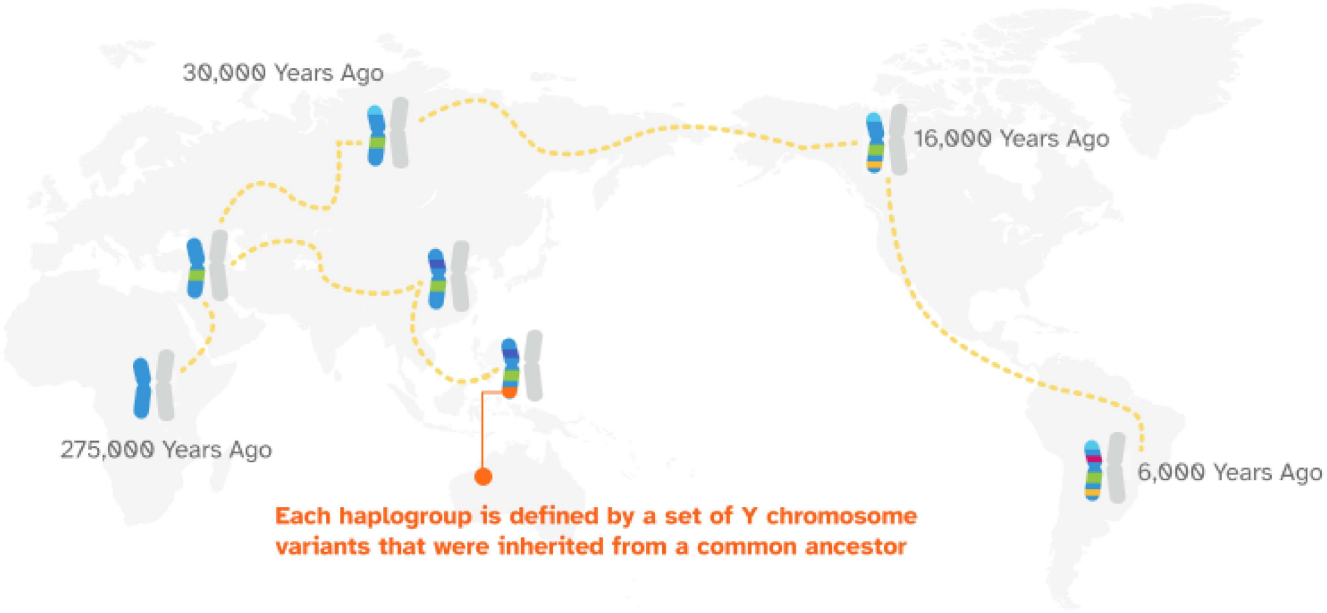
A paternal haplogroup is a cluster of branches on the tree that stem from a common male ancestor and share a particular set of variants. To keep track of all the branches, the major sections of the tree are named with one or more capital letters. Each haplogroup name starts with the letter of the major branch from which it stems and ends with the name of a variant that identifies a particular subgroup.

Visit the scientific details to see your lineage in the tree of all paternal haplogroups.



Tracing Male Migrations

Because closely related haplogroups tend to share geographic roots, researchers can use the modern distributions of haplogroups around the world to trace major migrations, from the voyage to Australia over 40,000 years ago to the peopling of North and South America in the last 16,000 years.



Do more with your Haplogroup results.

- Contribute to research and help us understand patterns of genetic variation around the world.
- Visit DNA Relatives to identify relatives that may be on your paternal line.

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

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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.

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