

## Do I need YDNA Testing?

- Do you have an ancestor for whom the father is unknown?
- Do you have a male ancestor whose origin is unknown?
- Are you unsure about a father-son relationship in your family tree?

If you answered yes to any of these questions, a YDNA test can help. However, for it to help, you need to test a genetic male who is a direct male descendant of the ancestor you want to research.

## Why the Y?

Hundreds of thousands of genealogists have turned to YDNA testing to aid in their genealogical efforts. Two elements of YDNA testing have helped it to achieve this level of popularity:

### Direct paternal line inheritance

YDNA is passed down with few changes from generation to generation. Therefore a man has the same (or very similar) YDNA as his father, grandfather, and great-grandfather. This means that two direct paternal descendants of Robert Jones, born in 1724, will have the same Y chromosome as Robert and, if all sons carried their biological father's surname, will also have the same surname.

### Usefulness in genealogy

A close YDNA match can provide a reasonable time frame in which to find a shared paternal ancestor.

## Which Testing Company?

Several companies offer YDNA testing for deep paternal line ancestry to help you find your ancestral location thousands of years ago. However, currently the only company offering YDNA cousin matching is [Family Tree DNA](#), so that is the company we will focus on in this guide.

## Getting Started

**Link Your Family Tree** Having your family tree linked to your account is good genealogical etiquette and *very* helpful when you are corresponding with matches as they can see what you already know. FamilyTreeDNA has partnered with MyHeritage to host family trees. [Follow the instructions](#) to either migrate your existing tree to MyHeritage or begin a new tree and link it to your DNA results at FTDNA.

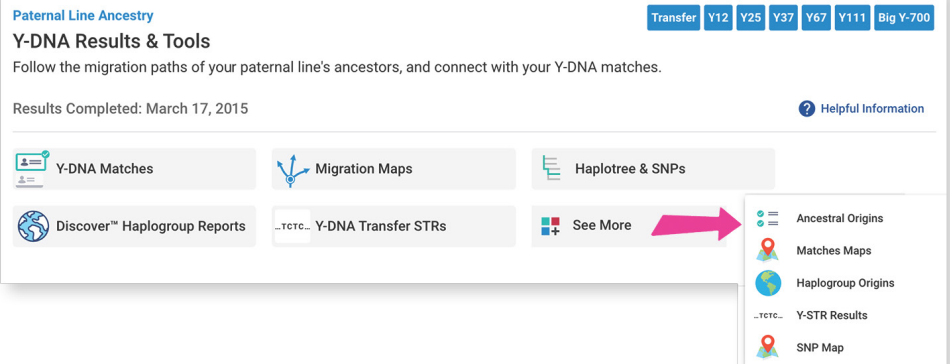
**Enter Your Earliest Known Paternal Ancestor** Click on your name in the upper right corner. Then choose *Account Settings > Genealogy > Earliest Known Ancestor*.

**Fill out Beneficiary Information** Designate who can manage your account should something happen to you by clicking on your *name > Account Settings > Beneficiary Information*.

**Check Your Privacy and Sharing Settings** Under *Account Settings > Privacy and Sharing*, choose among several ways to ensure you are comfortable with the ways others can view your data.

## What Do I Get?

Logging into FTDNA brings you to the *Dashboard*. Under the YDNA header you will see several different menu items that highlight different aspects of your test. We will cover the three most important sections in this guide.



Each YDNA test produces two kinds of information: a YDNA profile which helps to find genetic cousins, and a prediction of your deep ancestral group, called a *haplogroup*. We will discuss your haplogroup in detail on page 4.

...tctc... Y-STR Results

## Y-STR Results

Clicking here will show you your values at the YDNA markers you have had tested. Collectively, this set of numbers is referred to as your YDNA profile and it has two parts:

- 1) **A list of locations on the Y chromosome that were tested.** Most often you will see these locations written as *DYS* numbers. If you picture the Y chromosome like a map, you can think of these *DYS* numbers like address points. Every man has these same address points. These locations are called *markers* in genetic genealogy circles.
- 2) **Your values at those locations.** While the locations are the same, the set of values will be different for each paternal line.

For example, let's say that Frank Finnigan and Wally Wilson were both tested at 37 markers, or address points, on their YDNA. Each man will have all 37 locations in their YDNA, and by comparing the marker values we can determine whether Frank and Wally share recent common paternal ancestry. If so, they will share most (if not all) of the 37 values.

## How many markers? 37, 111 or BigY?

*More is better* is a general principle that applies to both dessert and YDNA markers. You really can't ever have too much of either.

But whether you are counting calories or dollars, moderation may be necessary. For the simple question of relatedness, when a clear *No* or *Yes* will suffice, the

37 marker YDNA test is usually sufficient.

However, most people find that *Yes, we are related*, is not enough. To truly harness the power of YDNA testing in determining exactly *how* you are related to a matching individual, you need to test more markers. You can usually upgrade to additional markers later without submitting a new DNA sample (just by paying more money!).

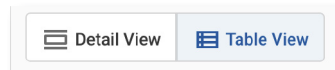
Often, 111 markers can be sufficient. But there are situations where you'll want to upgrade to Big Y, especially if you are researching 10-12 generations back. **That said, it won't be helpful to upgrade unless you have matches who have also tested at that higher level (or there won't be someone to compare to).**

Name	Markers Tested	Genetic Distance	Y Haplogroup	Paternal Country of Origin	Paternal Earliest Known Ancestor	Actions
Inglebert Wilson	1 to 111	Exact Match	R-M269	United States	Bertrand Wilson b. abt. 1722 Nowhere, OH	[Icons]
Bartholomew Wilson	1 to 67	1 step	R-U106	Unknown Origin		[Icons]
Samuel Samuels	1 to 67	3 steps	R-M269	Unknown Origin		[Icons]
Roger Rogerson	1 to 111	5 steps	R-M269	England	James J. Rogerson, 1627	[Icons]

This image is a recreation of the YDNA match page from FTDNA. Each number in the image corresponds to a number in the text that will provide a complete explanation of that feature.

## Matches

Your YDNA profile, which describes your own personal paternal line, is used to find others in the database who might share a recent direct paternal line ancestor with you. You find those individuals by selecting *Matches* from the YDNA section of your FTDNA dashboard. FTDNA will show you a table of other people who share a majority of your YDNA values. The default view is the Detail view, but I prefer (and am showing you) the Table view. Here are its most important features:



### 1 Name

The name in the match field may be the name of the actual person tested, the one who ordered the test, or even the name of the earliest known ancestor. Clicking on the name brings up a snapshot of your match's profile page, complete with contact information, when available.

### Why do I match with people who do not share my surname?

Many times it is because you share a deep ancestral group. Additionally, many of these matches exceed the difference limit set out in section 5, and should not be considered close relatives. Paternal surnames may also not have been passed on at some point due to unwed status, misattributed paternity, adoption, or other factors.

## 2 Markers Setting

The FTDNA match page defaults to showing your matches at the highest level YOU have tested, up to 111 markers. (Big Y has a separate portal, not covered in this guide.) Use these tabs to view your matches who have tested at lower levels. As you toggle back and forth between different marker levels, you'll see some people disappear from the lists (because they didn't test at a higher level).

The options include marker levels that people tested at in the past (12, 25 and 67) that are no longer sold. However, the way FTDNA displays the matches at the lower testing levels can be confusing.

For example, if someone was tested at 67 markers but had more than the allowed number of differences from you (see the table on the next page), they will not show up on your 67 marker match page.

If they meet the requirements for a 37-marker match (have four or fewer differences among the 37-marker set), then they will appear on your 37-marker match page even though we know they are not related to you when the higher level of markers are evaluated. Therefore, you need to pay attention to the column marked with a 3 and note how many markers your

matches have had tested. You should only pay attention to those matches whose highest level of testing corresponds to the number in section 2. Simply put, if you are on the 37–marker match page, only evaluate those matches who have tested at 37 markers.

### 3 Markers Tested

This column indicates how many markers each match has had tested. (Look at the largest number.) If the number is 500 or larger, this match took a Big Y test (initially, Big Y tested 500 markers; now it tests 700).

If your Best Matches have had more markers tested than you have, it would generally benefit you to upgrade, as well. That way you'll have the best possible comparison. (Keep reading to learn more about who your Best Matches are.)

### 4 Total Number of Matches

The total number of matches you have at each level appears in parentheses after the marker level. The numbers are a quick indicator of how common your genetic profile is among those who have tested. Having fewer than 50 matches at 37 or 67 markers indicates that your genetic profile is likely doing a good job of isolating your paternal line from others who simply share your deep ancestral group (or haplogroup—see p. 4).

Those who share a haplogroup often share many values, causing hundreds of matches to appear who may not be related to you within recent generations.

### 5 Genetic Distance

Genetic distance is a fancy way to describe the differences between the YDNA values of two men. For genealogy purposes, you want only your Best Matches. Use this table as a guide to finding those genealogically relevant matches.

One frustrating aspect of the FTDNA match table is that it does not allow you to see the actual data for each of your matches. All mismatches are not created

equal, and it can be valuable to know which markers you are mismatching at. One of the many perks of joining a surname project is that you can see the locations where you are mismatching with others of your surname.

#### Genetic Distance

FTDNA shows matches they feel could be genealogically relevant.

Markers Tested	Differences Allowed	Best Match Differences
12	1	1 or fewer
25	2	1 or fewer
37	4	3 or fewer
67	7	3 or fewer
111	10	5 or fewer

See the *Next Steps* section on the next page for more information.

### 6 Y Haplogroup

See the Haplogroup section on page 4.


### 7 Paternal Country of Origin & Earliest Known Ancestor


Review genealogical information posted by your matches and look for common surnames and locations. (See *Getting Started*, page 1, for instructions on entering data on your earliest known paternal ancestor.)


### 8 Filter and Export

You will mostly use this feature to filter your match list by the surname group(s) you are a part of, or to see others who have taken the Family Finder test (the autosomal DNA test at FTDNA). Depending on availability of this functionality at FTDNA, you may be able to export this match list for your records.

### 9 Actions

 A dark pedigree icon indicates that your match has posted a family tree at FTDNA. Look for trees at Ancestry or FamilySearch, also, to see if a tree is posted elsewhere. Focus on their direct male line and look for common surnames and locations.

 note icon allows you to record your notes regarding this particular match.

 Time Predictor (TiP) function on the FTDNA website allows you to calculate the time to your Most Recent Common Ancestor (MRCA). This is a statistical calculation that takes into account the number of markers tested, the number of differences between two individuals, and the markers at which they are mismatching. The highlighted time ranges is the estimation of how far back in time the tester is related to this particular match.

Y-111 TMRCA ⓘ	
1850 CE (1750 - 1950 CE)	
1850 CE (1700 - 1900 CE)	
1800 CE (1650 - 1900 CE)	
1750 CE (1600 - 1900 CE)	
1700 CE (1500 - 1850 CE)	
1650 CE (1450 - 1800 CE)	
1600 CE (1350 - 1800 CE)	
1500 CE (1200 - 1750 CE)	
1450 CE (1100 - 1700 CE)	
1350 CE (950 - 1650 CE)	
1250 CE (800 - 1600 CE)	
Show 0 to 10	

### Using 12 Marker Matches

Usually, 12-marker matches are not a good indication of shared paternal ancestry. The 12-marker test was FTDNA's initial (and affordable) YDNA offering, so many have tested only at that level. You should check your 12-marker match list at least one for those who have only had 12-markers tested. To do this, click on the 12-marker section in 2 and then sort by column 3 to see those who

to see those who have only tested at 12 markers. Consider using the master search box at the top of the table to search for matches who share your surname.

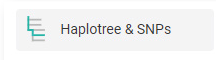
## Your Haplogroup

Your haplogroup is your deep ancestral group. Each haplogroup can be associated with a different part of the world, sometimes even with specific population groups. Knowing the haplogroup of your paternal line can help you as you search databases and work to extend your paternal line genealogy.

If you belong to a common haplogroup you can expect to find many more false positive matches in the databases. These are matches that share many values with you, but are not recently paternally related.

The haplogroup assignment you received from FTDNA is just a prediction. They used the values in your profile to compare to a database of individuals with known haplogroups to determine yours. To definitively determine your haplogroup you need to upgrade or test at the BigY 700-marker level.

This additional testing uses a kind of DNA called SNPs (pronounced *snips*). These are single changes in the DNA code that have accumulated over thousands of years. Scientists have been able to use these SNPs to discover a historical record of the travels of our ancient ancestors.

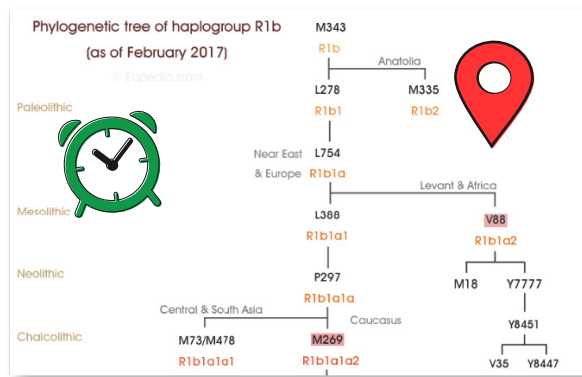


**Haplotree & SNPs** Finding out which SNPs you have (and don't have) can help

determine your ancestral origin. View a family tree of sorts for your SNP family using this view at FTDNA.

A similar, but sometimes more readable, view of your SNP tree can be found at *Eupedia* (Eupedia.com). The website has a page for all of the most common European YDNA haplogroups. The tree-like structure of this image helps you visualize three important points about SNPs and haplogroups.

- SNPs are related to each other, having much the same structure as our own family trees.
- SNPs have a time when they first entered the YDNA tree (see the clock I added to the image on the top right).
- SNPs have a location where they first originated, but we do not know the locations for every SNP.



The SNPs in the image above are from haplogroup R-M269 (here called R1b), the most common YDNA haplogroup in western Europe. At various branch-points, different SNPs are able to distinguish between individuals of similar ancestry.

The big question is then, "**How does this help me in my genealogy?!**" The answer is that sometimes it can, and sometimes it can't, and further research is now providing many more cans than can'ts. Let's say your family lore reports that your English ancestor Charles Henry was actually an Irish man named Charles O'Henry. You found a direct paternal descendant of Charles to have his YDNA tested and his haplogroup was determined to be R-M269. Unfortunately, this haplogroup is very broad and covers both England and Ireland. However, there are several SNPs specific to Ireland. You pay for additional SNP testing and Charles does turn out to have an Irish SNP. Great! That would support your hypothesis that Charles was from Ireland. But if he doesn't have those particular Irish SNPs, he could still be from Ireland. These SNPs can include you in a particular population, but the absence of them does NOT exclude you from the population.

## Next Steps

**Join A YDNA Project** Maximize your YDNA results by joining a group project; FTDNA hosts several kinds. Groups are powerful networking and information hotspots to help jump start your genealogy. Choose *Group Projects* from the top menu, then *Join A Project*. Use the search box to find groups of interest. Check out [our blog](#) for more information about group projects.

**Upgrade to BigY** Click the *Upgrade* button on the top left of your FTDNA dashboard. With 700 locations and thousands of SNPs tested, the

BigY is especially helpful for determining connections in that 10-15 generation time frame.

**mitoYDNA.org** is a free website that allows you to upload your YDNA and mtDNA data for inclusion in their database and to take advantage of their tools.

Want to maximize your understanding of your YDNA test, including how to interpret your YDNA Project results and how to understand and use your BigY test? Complete with Classwork, Homework, and a live Q&A, you will next-level your learning.

**Register for our YDNA Course.**