

The Top 10 DNA Features on MyHeritage

by Richard Hill

What are the top features of the MyHeritage DNA test? My presentation for the MyHeritage Webinar Series shares my personal list of Top 10 features using many examples to illustrate the details. This handout summarizes the key points of that presentation in less depth.

MyHeritage DNA Testing

The MyHeritage test looks at autosomal DNA, which is a mix of DNA inherited from both parents. They will compare your DNA with that of people already in the database and continue to compare you with new people added in the future.

You get a growing list of people who share significant amounts of DNA with you. The genealogical goal is to find the common ancestor you share with each match.

In general, the more DNA you share, the more closely related you are. And the less DNA you share, the farther back in your tree you need to look for the common ancestors.

The amount of shared DNA can be expressed as a percentage or in a unit called centiMorgans. MyHeritage reports both measures.

Since a child only gets half of each parent's autosomal DNA, the amount of DNA from your ancestors gets cut in half at each generation. As a result, DNA from distant ancestors does not stand out and autosomal DNA testing can only go back consistently about 5 to 7 generations.

Assumptions for Top Ten Selection

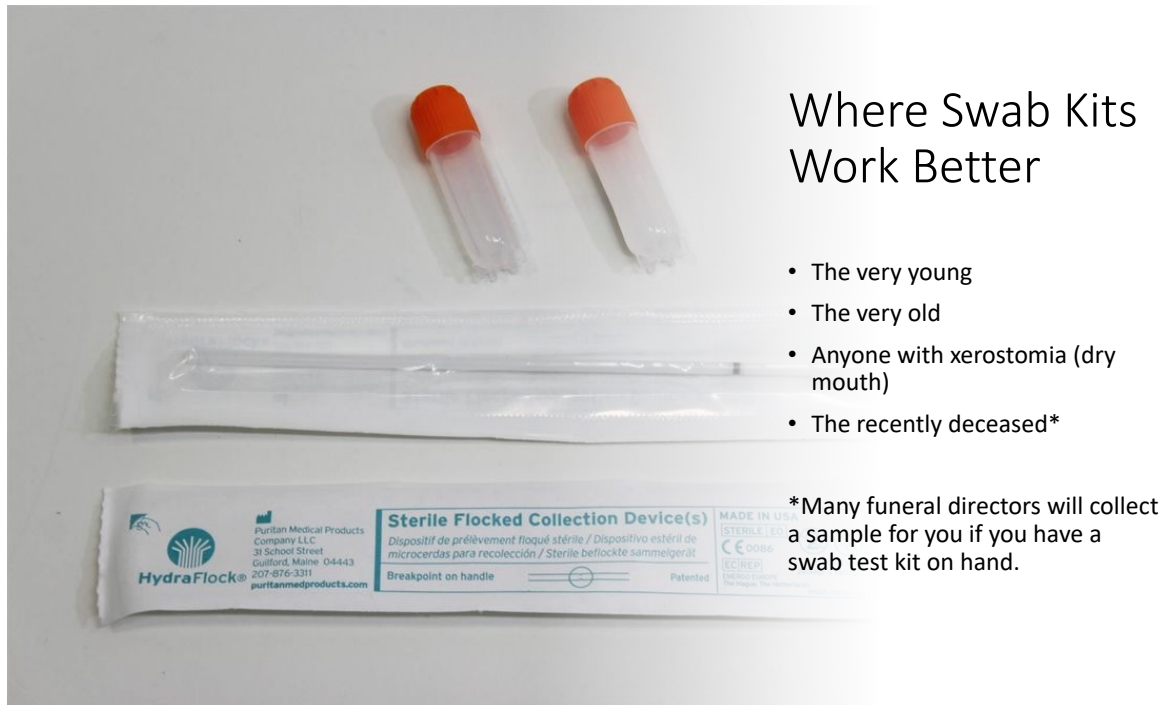
For my review of MyHeritage DNA features, I assume you have either provided a DNA sample or uploaded raw data from a compatible DNA test.

Some of the features described here require a subscription if you tested directly or payment of a one-time unlock fee if you uploaded your raw data.

Finally, my Top Ten is not a ranked list. All ten DNA features have great value. I merely present them in an order that makes sense to me. Their relative importance to you will depend on your situation and needs.

1. Swab Kits for DNA Samples

Since a lot of people cannot spit saliva into a tube, swab kits are more inclusive. This may seem like a small point unless it's you or someone you desperately want to test that can only be tested with a swab kit.



Where Swab Kits Work Better

- The very young
- The very old
- Anyone with xerostomia (dry mouth)
- The recently deceased*

*Many funeral directors will collect a sample for you if you have a swab test kit on hand.

2. Free Uploads & Global Reach

MyHeritage has generously opened its database to people who have done DNA testing at several other testing companies. I don't consider free uploads to be a top-ten feature just because I can save money on a test. For me, there are three more important reasons.

1. Genetic genealogists often test multiple family members and some of these people are no longer available to submit a new sample. Yet they may have tested elsewhere.
2. Free uploads let you get every kit you manage into this single database and then access them all conveniently. There's no need to log out and log back in for every different person.
3. Having more family members in the database can yield more useful information.

Not surprisingly, the databases of US-based DNA testing companies are mostly populated by Americans. Each has a relatively small presence outside the U.S. Based in Israel, MyHeritage has long been the online genealogy platform with the most global reach.

As a good indicator of this, their website supports 42 languages. They even have a unique Global Name Translation technology that now works with DNA match names.

In addition to a rapidly growing US presence, MyHeritage is the most popular DNA test outside the United States. Furthermore, MyHeritage is the only DNA testing company reporting the country where our DNA matches reside. As a result of all this, MyHeritage provides the best chance of discovering living cousins in our ancestral homelands.

3. Family Trees

Genetic genealogy is most powerful when you combine DNA testing with family trees. Yet not all DNA testing companies support the uploading of family trees.

MyHeritage does an excellent job with family tree management. You can upload multiple trees to use with the people for whom you have DNA results.

Without a subscription, you are limited to a maximum tree size of 250 persons. Yet even that can be a very productive complement to your DNA results.

It's important to note that your DNA matches are based solely on DNA comparisons. It's certain other features, covered here later, that take advantage of family trees.

MyHeritage includes many powerful tree-related tools including Timeline, Consistency Checker, and PedigreeMap™. You can view your trees in family view, pedigree view, or fan view with or without color coding.

4. DNA Match Review

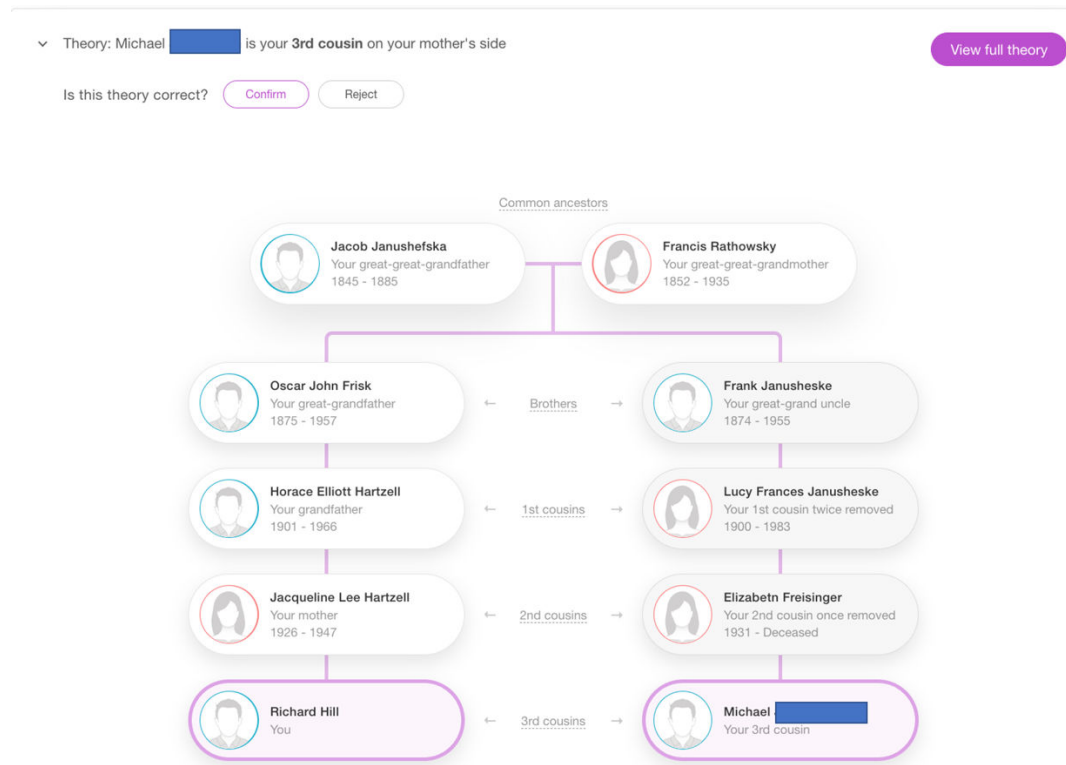
As with any DNA test, MyHeritage provides you with a list of your genetic matches. You can sort them in various ways. The default is to list them by the amount of shared DNA. But you can also sort them by the number of shared segments, the largest segment, by full name, or by the most recent matches.

The presentation uses examples to show many details of the DNA Match Review. Some elements of the DNA Match Review are so significant that I consider them to be among the top ten features and cover them separately.

5. Theory of Family Relativity

If you and a DNA match both have family trees, this innovative tool can save countless hours by automatically finding and highlighting possible paths to common ancestors.

A summary diagram shows your separate ancestral lines to the common ancestors for this match. You can also view the full theory to see the separate trees and where they connect. In some cases, there may be multiple paths where different trees connect in different places.



Sometimes, more than two trees will be used to piece together a theory. The green dot in a full theory shows where the two trees overlap and how confident they are that it's really the same person in both trees. If a connecting dot is brown instead of green, it means the connection was based on sources other than trees posted on MyHeritage.

Note that a Theory is just that. It is not proof of how you and your genetic match are related. Posted trees are not always accurate. And the total amount of DNA you share could have accumulated from multiple, more distant ancestors. Yet these Theories are important clues that I have found to be correct much of the time.

6. cM Explainer™

This tool uses the amount of shared DNA and your ages (if known) to fine-tune relationship predictions and show a probability for each possible relationship.

© Possible relationships NEW
The table below shows how Michael [redacted] might be related to you:

Relationship	Probability		<u>Most Recent Common Ancestor(s)</u>
3rd cousin	45.7%		Great-great-grandparents
3rd cousin's son	13.9%		Great-great-grandparents
4th cousin	11.6%		3rd great-grandparents
2nd cousin's son	7.8%		Great-grandparents

[Show more relationships plus diagram](#)

Knowing the relative ages, MyHeritage can also name relationships more precisely in easier-to-understand language, for example, a 3rd cousin's son instead of a 3rd cousin once removed.

Note that none of these relationships are 100% certain. Your true relationship is not always the one with the highest probability.

At the bottom of the list, it says [Show more relationships plus diagram](#). If you click on that you see a longer list that includes more of the less likely relationships. That often includes some half relationships. In those cases, the most recent common ancestor is singular...for example, a great-grandparent rather than a pair of great-grandparents.

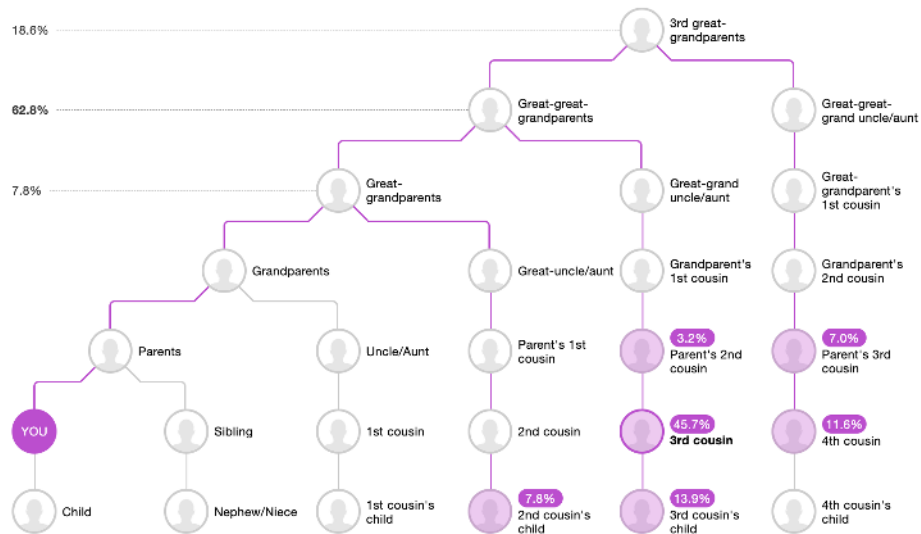
Scroll down for a diagram of possible relationships. The diagram is the same every time. What's different is which relationships appear in color with the probabilities next to each.

Diagram of possible relationships

This diagram shows the possible relationships and paths to your DNA Match, with the probability for each possible relationship. You can choose to view full relationships or half relationships, or both.

Show probabilities for MRCA ?

View: Full relationships v ?



7. Shared DNA Matches & Chromosome Browser

For any DNA match, it's helpful to see other matches you have in common and how you both relate to them. Anything you can discover about the family trees of these shared matches may help identify the common ancestors responsible for this genetic match.

Some of the shared matches may have some triangulated segments. Validating triangulation is complex, especially when comparing the DNA of a large group of people. MyHeritage is the first company that does it automatically.

The integrated chromosome browser lets you view these triangulated segments that were passed down from common ancestors.

A separate chromosome browser under DNA Tools lets you view shared DNA segments between you and multiple DNA Matches, which can help point to a common ancestor. MyHeritage lets you select up to seven DNA Matches to view shared DNA segments. You can also download the detailed segment data, including start and end locations and the number of SNPs to a spreadsheet.

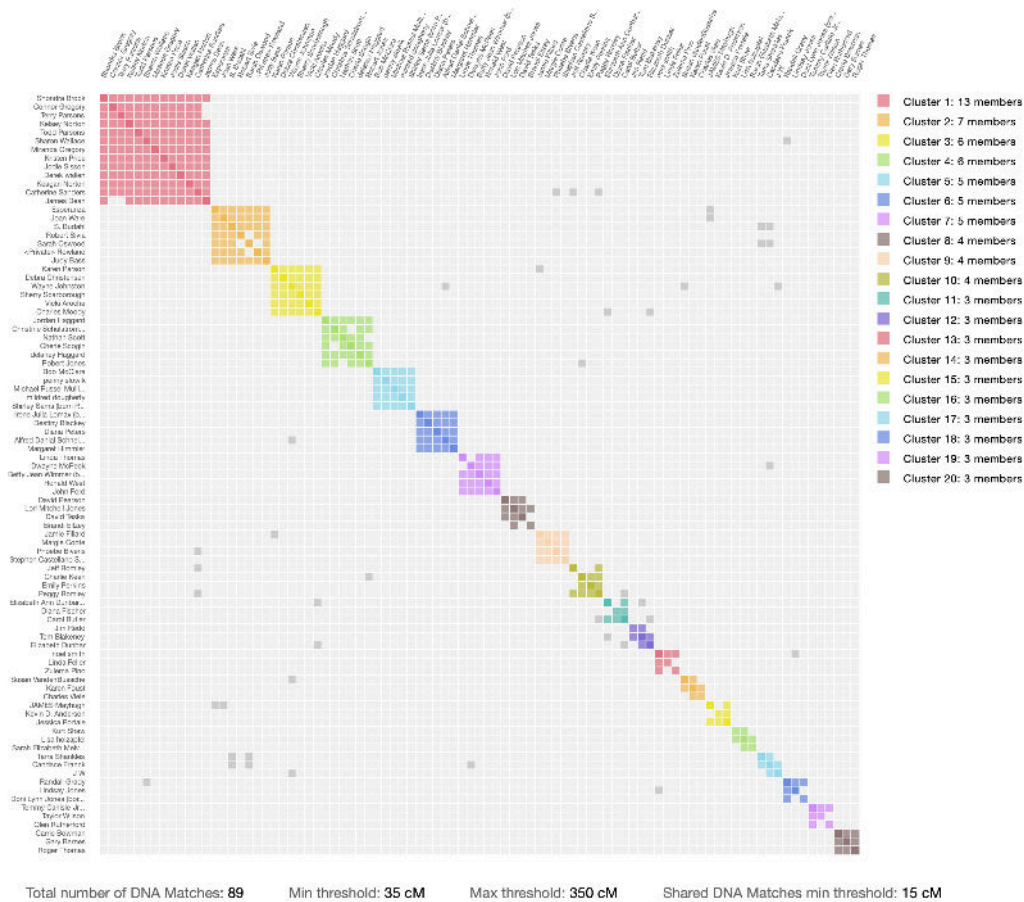
8. DNA Match Filters

MyHeritage has a very large database of testers, and it's easy to be overwhelmed by the volume of DNA matches. A huge selection of DNA match filters lets you focus on smaller groups of matches that fit what you're trying to accomplish at any given time. Even better, MyHeritage lets you combine multiple filters.

9. AutoClusters

This is an automatic tool that organizes your DNA Matches into clusters that likely descended from common ancestors. MyHeritage is the only DNA testing company to license this powerful technology so you can generate the report from within your account.

After doing this, you receive a zip file by email that includes three files — an HTML file that contains a visual representation of the AutoCluster analysis, a CSV file with a spreadsheet version, and a ReadMe PDF file.



In the visual representation, a list of your matches appears vertically down on the left and horizontally across the top in the same order. Each of the colored cells represents an intersection between two of your matches, meaning that both individuals match you and each other.

Each color represents a shared match cluster. Members of a cluster match you and most or all the other cluster members. Most likely, each cluster represents a different branch somewhere in your family tree.

The spreadsheet file provides each person's name, a link to their family tree if they have one on MyHeritage and a count of the number of people in that tree.

10. Ethnicity Estimates & Genetic Groups

Throughout the world, there are regional variations in the genetic characteristics of native populations. MyHeritage has established a genetic model for each region. Ethnicities Around the World is open and free for visitors, not just DNA testers. Anyone can access this feature in the DNA Tools section under the name "Ethnicities Map".

The Ethnicity Estimate compares your DNA with each of these models to discover how much of your DNA comes from each region. Knowing how much of your DNA comes from different world regions is fascinating and may help solve some family mysteries.

In a massive effort to provide finer geographic backgrounds, MyHeritage research has also identified 2,100 Genetic Groups. Members of a group share geographic origins in their family trees but may have multiple ethnicities. For Americans, these can sometimes pinpoint more recent migrations within the US.

Conclusion

In sum, these are what I consider to be the top 10 DNA features on MyHeritage. As I noted up front, this is not a ranked list. I merely organized and presented them in an order that made sense to me. Their relative importance to you will depend on your situation and how you like to work.

MyHeritage is a powerful DNA test with comprehensive tools for getting the most from your DNA matches. I consider it a vital part of my genealogical toolset, and it should be part of yours too.

The Top 10 DNA Features on MyHeritage

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| 3. Family Trees | 8. DNA Match Filters |
| 4. DNA Match Review | 9. AutoClusters |
| 5. Theory of Family Relativity | 10. Ethnicity Estimates and Genetic Groups |