

Which DNA Test Should I Order?

By Sara Allen

During the holiday season, many people purchase DNA kits for themselves or family members. The DNA companies run some of their best sales of the year around then, so it is a good time to invest in this testing. Which test should you order? It depends on your goals and what you hope to learn from testing. Some of recommendations in this article are based on my personal opinions.

*For those curious about family background and for serious genealogists:

Autosomal DNA testing will give you an ethnicity estimate and list of genetic cousin matches going back to about 5th-8th cousins on all family ancestral lines. Four major reputable testing companies offer this test: AncestryDNA, Family Tree DNA, MyHeritageDNA, and 23andme.

You can do as much or as little with your DNA results as you wish. Casual users may want to check their results, and then decide not to pursue it any further. Dedicated family genealogists can work with genetic cousin matches to share information, family photos and documents, and work together on the family tree. Adoptees can use this test to find birth family.

Testing company information: Of the four companies, MyHeritageDNA has more persons currently living in Europe in their customer database of around 7 million testers. Family Tree DNA has many Jewish members in their customer database (1.5 million total users). AncestryDNA has the largest customer database (around 23 million), has helpful tools for analyzing DNA, and has more US and UK members. 23andme is not geared toward the serious genealogist, but toward health information; however, it can be useful for those seeking answers to a family mystery (14 million total users). Family Tree DNA allows law enforcement to access their DNA database to track down some violent offenders, while the other companies do not (without a court order). Be sure to read each company's privacy policy.

*Ethnicity estimate:

All autosomal testing company ethnicity estimate results will be somewhat imprecise and not in total agreement with your known family ethnicity or tree. 23andme and AncestryDNA are considered by many DNA experts to be the most reliable of the companies on ethnicity estimates, but will still be imprecise. My advice is to consider the ethnicity estimates as "just for fun."

Those of Asian background might try WeGene testing company for a more detailed breakdown of Asian ethnic groups (but no cousin matching). Those of more recent UK ancestry might try Living DNA for a more detailed breakdown of UK DNA to the county or regional level (plus some cousin matches).

*Health information:

Several autosomal DNA companies offer add-on health testing for an additional fee. 23andme is the only company that originated as a health company. They offer reports that includes disease carrier status, predisposition to conditions, family health history tree, wellness reports, and drug metabolization information for *some* conditions. AncestryDNA and Family Tree DNA offer wellness information or traits, but no carrier status, for an additional testing fee. There are other testing companies that offer different wellness and health tests without a genealogical component. If you have tested at any of the big 4 companies, you can upload your raw DNA file to Promethease

(<https://promethease.com/>) for a small fee, or CodeGen (<https://codegen.eu/>) for free. These companies will provide genetic variants, predispositions or carrier status for over 2,000 conditions or genes.

*Adoption or unknown father:

Take an autosomal DNA test with the DNA testing company with the largest customer database (currently AncestryDNA). Expand to more companies if answers not found, and be sure to pursue adoption records as well. You may need expert advice to help with identification of birth family. A paternity test through a reputable laboratory is the only way to legally prove paternity. The only accurate legal sibling or half-sibling test recommended by DNA experts is Paragon's Affinity Test.

*Paternal background of a male:

A Y-DNA test from Family Tree DNA testing company will provide the male test taker with the ancient origins of his direct paternal line (father's father's father's etc. line) and DNA matches who may trace back to a common ancestor from one to about fifteen generations ago. Powerful tool to help genealogists learn more about a paternal line. Males seeking birth fathers should take an autosomal DNA test first. I would recommend that all serious male genealogists test their Y-DNA at the highest level they can afford for the sake of posterity and knowledge of paternal origins.

*Maternal background of a male or female:

Autosomal testing is almost always the first test recommended for those seeking information about their maternal line. A mitochondrial DNA (mtDNA) test offered by Family Tree DNA will provide the test taker with the ancient origins of their direct maternal line (mother's mother's mother's etc line) and DNA matches who may trace back to a common ancestor from one to about 30 generations ago. Users may need expert advice in interpreting mtDNA results. I would recommend that all serious genealogists test their mtDNA for the sake of posterity and knowledge of maternal origins.

Finally, be sure that you understand how to purchase test kits as gifts (contact the DNA testing company for guidelines), and be sure that you can arrange help for older relatives to physically take the test, get it in the mail, and register/create an account on the company's website.