

## DNA: FINDING COUSINS THRU CHROMOSOMES (REVISED)

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### 1. DNA HERE TO STAY, SOME FACTS

DNA testing for genealogy purposes is one of the greatest things to come along to assist serious genealogists. Media barrage coverage of sensational stories which bombards us weekly, both in print, and in advertisements online, does not portray the true value of DNA for us. DNA has helped me confirm several family mysteries, and knock down an impossible brick wall. Some important points to understand DNA testing via commercial testing companies:

- a. DNA testing is voluntary, you sign a consent form agreeing to the testing.
- b. There is no national DNA database for regular people. Matches are discovered with other living people who have voluntarily taken a DNA test. You can't match anyone who has not DNA tested.
- c. Tests costs someone between \$50 to \$70 dollars or more, so if you are given one, remember someone paid for it. Use it or return the kit. DNA tests are NOT free.
- d. Ethnicity results are hyped on television, but that is not why a serious genealogist tests. All DNA tests match real people, if you know how to use the company site you tested with. Ethnicity percentages are based on reference populations that can change over time.
- e. Autosomal testing, offered by all companies, shows kinship with roots back almost six generations, due to the halving of your DNA with each generation going backwards. I only have 6 % of the DNA of a Civil War-era ancestor. You likely have little DNA from any ancestors before six generations, be they Native American or any others.
- f. [www.GEDmatch.com](http://www.GEDmatch.com), the company through which criminals have been identified by their cousin's DNA, is totally voluntary, and one has to copy their DNA results into that site. It is not automatic, and contains only a small subset of DNA tests done for genealogy. They updated all their user agreements, so revisit the site to be sure you have signed everything or opt out.
- g. If you do DNA testing you could learn something, find cousins, and isolate a new ancestor
- h.. If you do not do DNA testing, you won't find out anything.
- i.. DNA does not lie. Your tree may be wrong, your family story may need revision.
- j.. DNA does not provide you with a family tree. It can help you verify parts of your lineage.
- k.. DNA testing cannot replace genealogy research with documentation, parallel results that match.
- l. DNA is random, hence the need to test several family members for best results.

2. **Why Do DNA Testing?** Surname verification, Brick wall solutions, add to the Data Pool, or learn your Ethnic Origins.

### 3. FOUR MAIN COMPANIES THAT PROVIDE DNA TESTS (OTHER COMPANIES EXIST)

**Ancestry.com** – only autosomal test. \$89/\$99 (frequent sales); **Autosomal Transfer to FTDNA \$19**  
**FamilyTreeDNA.com** – the Y-DNA test (male chromosome) (37 markers \$119), autosomal test (Family Finder test) (\$79), and the mitochondrial test (your mother's mother etc.) (\$159). Check for sales.

**23andMe.com** – two tests: Ancestry Service (autosomal) (\$99), if include health related data (\$199).

**MyHeritage.com** – only autosomal test (\$59/\$79). Frequent sales. **March 1, 2021 prices**

**Note:** Contact is email only, with credit card, all include Ethnicity results, can copy/transfer results between them. Ancestry and 23andMe are spit tests, the others are cheek swabs.

**4. COMPARING AUTOSOMAL TESTS: FAMILY TREE DNA AND ANCESTRY.COM –**

	<b>Ancestry</b>	<b>Family Tree DNA/ Family Finder</b>
<b>Ease of contact</b>	Lots are not real names, email contacts thru Ancestry only	Real names, direct email
<b>Family trees and search</b>	Good tree links, if accurate	Add your tree, link to matches
<b>Comparing results</b>	Compare via GEDmatch	Compare within site; GEDmatch
<b>Stable business</b>	Farms out their tests, have stopped some	Dedicated to DNA
<b>Number of DNA Matches</b>	I match over 56,000 people on Ancestry	7000 at FTDNA

Both have good methods using *Shared Matches/ In Common With* features.

Ancestry is always tweaking, changing, and adding new features.

To compare both results to each other, use GEDmatch.com

**5. REASONS YOU CAN'T FIGURE OUT HOW PEOPLE IN YOUR RESULTS MATCH YOU?**

Your high-level cM (centiMorgan) results should be people you know how kin or can easily figure out. But if you can't figure out how they fit in-or they won't respond, these could be some of the reasons:

- a. Adopted
- b. Result of a non-paternity event in the past that is unrecorded. (Out-of-wedlock)
- c. Error in research, either on their end or your end.
- d. People who got into DNA testing to learn their ethnicity, not into genealogy, don't know how to respond. Try to call and interview them, or at least find out where their family was living in the 1940 census, and then try and figure out yourself how they fit in.
- e. Racial difference
- f. Surname could be translated from another language (Y-DNA tests), or be part of cultural background that didn't use hereditary surnames (Jewish, Scandinavian). Or it could be shortened, adjusted.

**6. HOW TO WRITE SOMEONE TO GET DIALOG GOING, VIA DNA TESTING SITE, OR DIRECT.**

- a. Don't accuse them of making an error.
- b. Don't assume they are as into genealogy or DNA as you are. Could be Ethnicity curious.
- c. Don't accuse them or their surname of being illegitimate or wrong.
- d. Offer to discuss by phone if possible, if important enough. Be positive and encourage testing.
- e. If it's crucial to get in touch, write a second or third time, sometimes that jump-starts them into replying. Ask simple questions – again, don't accuse.  
Say "I need to know some basics of where your roots are from to see how we match on the \_\_\_\_\_ name" (if a Y-DNA test). If autosomal, say something like "What area of the USA did your (recent) ancestors live in?" "Or in 1940?" "Why did you take a DNA test?"

**7. STRATEGY TO OBTAIN MORE RESULTS (Be Proactive):**

- a. **Wait** for other descendants of your ancestors to take a DNA test. While many millions have done DNA testing for genealogy, it still leaves millions untested. The fact that you got good results on some lines is great. (Statistics increasing all the time.)  
**Case Study:** Some of my best discoveries, so far, have been via people who just showed up, that I never knew before DNA testing. But on some lines you could wait forever.
- b. **Be proactive**--track down a cousin whose DNA results would help you and try and convince them to pay for the test, or pay for it yourself. If you wait too long, some DNA will no longer be available due to death or disease. This process is being called Targeted Results.  
**Case Study:** To prove my Russell line was valid I went up the tree to my purported great-great grandfather (born 1827) and then to his brother (b. 1832) who moved to Arkansas in the 1860s and down that line to a direct male descendant, and he took the Y-DNA test. He was an exact match for my Russell cousin in Columbus, GA. There was no paper trail that proved this. Just stories.
- c. **Work with the Family Projects** on Family Tree DNA or your own reunion group/family to secure other people to test. You can create your own family project and recruit folks.  
**Case Study:** My Russell family, I recruited 10 descendants of my great-grandparents, to test. Some paid for their tests, some I paid for. This gives me great information to compare and contrast.
- d. **Get older generation** (not just in age) to test if possible. In Autosomal tests this helps a lot.  
**Case Study:** On my Hudson line, I found a cousin whose grandfather was in the Civil War, and was thus at 84, a generation older than my 97-year old mother. He even has a sliver of DNA from our Revolutionary War ancestor due to men having children in their 40s rather than their 20s. You have to know the people in your family tree to find the right ones to test.

**8. STRATEGY CHECKLIST FOR ANALYZING MATCHES, START WITH FIRST PAGE OR TOP 30:**

- a. CentiMorgan (cM) number, check out anyone at 65 cM or higher.
- b. Family Tree or surnames, do they have either or both that you recognize?
- c. Profile, is one posted?
- d. Do they appear on other companies' test results with more information?
- e. Who do they match when you use the "In Common With" or "Shared Matches" features?
- f. Use the Chromosome Browser of GEDmatch to see who they match and how.
- g. Search GOOGLE to see if you can find information on them, their email, etc.
- h. Email them directly and ask questions. Don't wait for a good match to write you first.

**8. WEBSITES FOR DNA INFO, WHERE TO ASK QUESTIONS (BESIDES THE COMPANIES):**

- a. [www.familytreemagazine.com](http://www.familytreemagazine.com) has some downloadable handouts. \$ and a great book *The Family Tree Guide to DNA Testing and Genetic Genealogy* (2nd edition, 2019) by Blaine Bettinger. A Must. Includes the cM chart he created.
- b. [www.genealogygems.com](http://www.genealogygems.com) offers laminated handouts about DNA tests by Diahn Southard whose website is [www.yourDNAguide.com](http://www.yourDNAguide.com). \$ New book: *Your DNA Guide: The Book*.
- c. ISOGG: [www.isogg.org](http://www.isogg.org) has numerous helpful materials online, including a cM chart. Free.
- d. <http://cryokidconfessions.blogspot.com/2011/09/dna-numbers-game.html> another cM chart.
- e. National Genealogical Society ([www.ngsgenealogy.org](http://www.ngsgenealogy.org)) *Genetic Genealogy in Practice* (2016).
- f. Georgia Genealogical Society ([www.gagensociety.org](http://www.gagensociety.org)) webinar library for members, 3 on DNA.
- g. Blogs, and other individual websites. One good one: thegeneticgenealogist.com by Bettinger. His latest website and most important is DNA-Central.com. Cost to join, very worthwhile.
- h. Put results into GEDmatch (outside site) to compare with those on Ancestry.com, etc. Free.

**GLOSSARY- TERMS YOU NEED TO KNOW ABOUT:**

**Autosomal-DNA** Test that compares cousins of both genders, can be taken by both genders.

**Chromosome Browser** (on Family Finder and GEDmatch)--Sorting option that helps show how certain people match on certain chromosomes.

**cMs** (centimorgans -A measure in genetic genealogy. The total cM numbers help determine how closely kin you may be to a DNA match.

**GEDCOM**--Format for transferring genealogy data from one genealogy family tree program to another.

**GEDmatch**--Website that allows DNA results from different testing companies to be compared on that site.

**Haplogroup**--A genetic population group of people who share a common ancestor on the patrilineal or matrilineal line. Haplogroups are assigned letters of the alphabet, and refinements within the groups consist of additional number and letter combinations. (ISOGG Wiki)

**Haplotype**--The genetic structure of a single chromosome. The grouping of these is a haplogroup.

**ISOGG** (International Society of Genetic Genealogy [www.isogg.org](http://www.isogg.org))--Has lots of information.

**Mitochondrial DNA Test**-Test only offered at FamilyTreeDNA that tests the female chromosome, from your mother's mother's mother on back thru time. Men and women can test. Not as helpful to proving genealogical research because results are not as specific, but can prove some major lines if you find the right people to test.

**MRCA** (Most Recent Common Ancestor)--Term used to help determine where lines meet.

**Non-Paternity Event (NPE)** --ancestors were not married to each other at conception, b. out of wedlock.

**Pedigree Collapse**--When you are related to someone through more than one ancestor causing your cM ratio to be higher than normal for a certain cousinship as shown on your charts.

**Y-DNA Test**--Test now only offered by FamilyTree DNA that tests the male chromosome, direct male line only. Only taken by males. Tests offered at 37, 67, & 111 marker levels. Results at 37 and higher are the most useful. Genetic Distance is an important analysis point on this test. Men testing should be in direct descent/direct line of the surname or father's father's father, etc. If line is broken, Y-DNA can't help prove that surname. Results can show many different spellings for any surname.