

## Creating Your Personal DNA Pedigree Chart

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Many individuals become frustrated with DNA testing when their goal is to determine Native, African or Asian minority ancestry and the best and only definitive tools they have at their disposal are the Y-line and mtDNA tests.

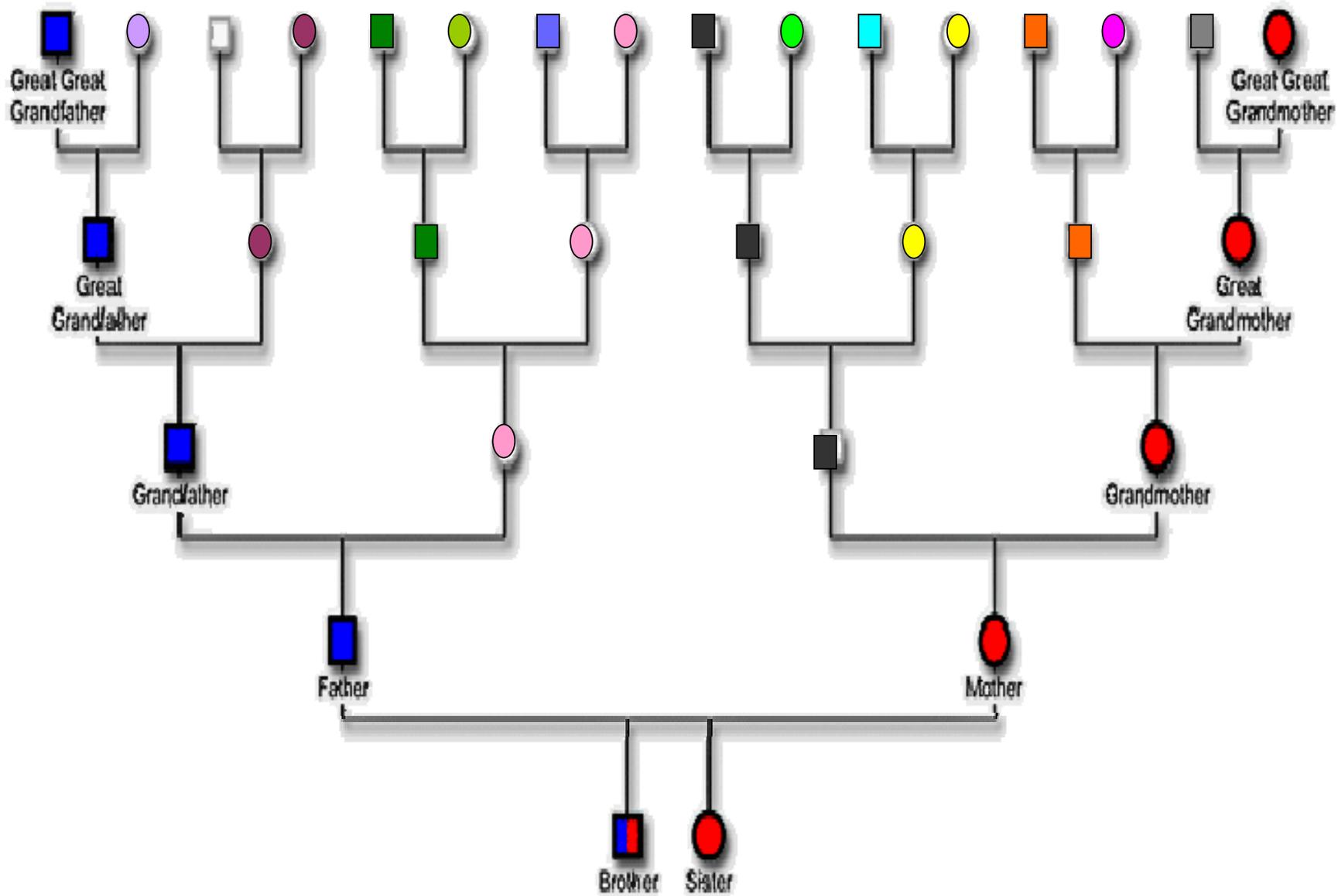
In these cases, the best solution is to obtain the Y-line and mtDNA of enough of the individuals in your pedigree chart to enable you to determine by using their Y-line and mtDNA results if they indeed carry minority ancestry.

To assist my clients in this endeavor, I have constructed a color coded pedigree chart that I encourage them to use in order to find appropriate individuals to test or who have perhaps tested already in surname projects. As we know, haplogroups are the best indicator of the 4 basic admixtures (Indo-European, Native American, African or Asian) and they serve to tell us about our ancestors before the advent of surnames.

This information, combined with biogeographical tests, autosomal tests and even the newer tests at DeCodeMe and 23and Me provide us with several tools to assess the presence or absence of minority ancestry. Only the mtDNA and Y-line tests can identify or eliminate the particular lines as carriers of minority ancestry on the maternal or paternal lines directly. What it does not tell us, of course, is if the other parent is the contributor of the ancestry in question, so our goal is to go back as far as we can in our lines obtaining the appropriate tests to identify the haplogroups of our ancestors.

The methodology for doing this is much easier for Y-line than mtDNA. With Y-line, the surname is tracked back in time, then forward, to identify living individuals with that surname to test. This can often be achieved using rootsweb, genforum, other mailing lists and resources such as the IGI and Ancestry.com.

Finding appropriate individuals to test for various mtDNA maternal lines is less obvious, but the same methodology is used. Going back in time, plain old-fashioned genealogy is needed to identify the females who married and had female children. Track those female descendants to the current day and in the current generation, males or females who descend from a female carrying that DNA can be tested. This is more difficult, but it can and has been done, quite successfully.



To assemble your DNA pedigree chart, write the names of the appropriate ancestors on this chart in the designated areas. Then, using the surname projects at [www.familytreedna.com](http://www.familytreedna.com), see which of your Y-line surnames, represented by the squares have established surname projects and in those projects, if your lines may have already tested.

You can do the same thing with your female lines, although it may be more difficult to discern if descendants have already tested. Begin by recording their names, birth and death dates and locations near the appropriate boxes above. If you run out of space and have more known ancestors in a particular line, continue the line on another page by indicating that this is the continuation of the Blue line, or the pink line, or whichever line you are continuing.

It may help you with this exercise to obtain some colored highlighters or markers and print your pedigree chart using your genealogy software, coloring the various lines on your pedigree chart with differently colored markers. For analysis purposes, I try to work with a single page when possible to be able to visually see relationships and DNA admixture.

In the above color coded pedigree chart, males are square boxes and females are ovals.

The red/blue box on the bottom row represents a currently living male and his sister is shown as a red oval.

Males carry Y-line DNA inherited from their father which is represented by blue boxes. Males pass the Y chromosome to their sons, which is what makes them male. Males carry mitochondrial DNA inherited from their mother, but they do not pass it to their children.

Females carry only mitochondrial DNA, shown by the oval boxes. Females pass it to their children of both sexes, but only the females pass it on. MtDNA is not admixed with the DNA of the father.

The coloration tracks the DNA ancestral pattern of a particular individual or line.

In the first example, the male child carries the blue Y-line DNA of his father, who carries the blue Y-line DNA of his father, etc, until you climb the family tree until you run out of blue ancestors. Matches could come from descendants of any of the males in that family line with blue ancestry, or their brother, or their nephews, etc.

In the second example, the male and female children BOTH carry the mtDNA of the red maternal line, but it is only tracked backwards up the tree in the red maternal line. This means that currently living males can test for both their

maternal and paternal lines, but the maternal line is only passed to future generations via females. Men don't pass it on.

Therefore the blue father carries the blue Y-line DNA of his father, but he also carries the pink mtDNA of his mother. If he is still living, he can test for both. If he has died, then another individual descended only through females from any of the individuals designated by pink ovals can be tested for the same mtDNA that the father carried. These are known as proxy or surrogate tests, where another individual tests "in place of" the person whose DNA you would like to test.

Combining genealogy, DNA and your Personal DNA Pedigree Chart with some genealogical sleuthing will hopefully provide you with a full compliment of ancestors whose genealogy and genetic history is revealed, like gifts to you, from them, on a very special Christmas morning.

*Roberta Estes*