

UPDATE – DNA FOR AGS



By John Adam Farris, AGS Member

What can be Learned about Maternal Lines and Deep Roots from mtDNA Test Results

My last column explored the information about male deep roots from the Y-DNA Haplotree. The mtDNA, also called mitochondrial DNA, is the female analog. It provides the female deep roots for all of us. It is also the energy unit that has many copies in almost every cell in our bodies. It contains unique DNA which is very different from either the atDNA that is in all of our 22 non-sex chromosomes or the male Y-DNA. The mtDNA is passed from mother to all of her children, but only her daughters pass it along. ~~Women have two copies of the mtDNA whereas men only have one.~~ [This statement is in the print version of this article, but is not correct.] The mtDNA is a circle, is very stable and mutates slowly. Thus the common ancestor of you and your matches could be over 500 years ago.

Family Tree DNA (ftdna.com) is currently the only commercial testing lab that offers tests for both Y-DNA and mtDNA. I have been through their headquarters and lab in Houston, Texas, and they are a very impressive and reliable company. If you decide to test your mtDNA, I strongly recommend that you purchase their full test, which is the most expensive mtDNA option.

Your mtDNA test results connect you with women and men who share your maternal line: your mother's mother, mother, mother, etc. back to Eve. My mother has been dead since 1984, but since I inherited her mtDNA, I was able to test my mtDNA which is identical to hers as well as her mother's, etc. Thus I now know my maternal line DNA.

From FTDNA you also get your most detailed female Haplogroup based on your mtDNA results. My mtDNA Haplogroup is H2a2b, which defines my deep roots. You will also get your mtDNA Haplogroup from some companies doing atDNA testing: LivingDNA, National Geographic, and 23andMe, but their Haplogroup designations are not as detailed. FTDNA is the only company that provides mtDNA matches. "H" is the most common mtDNA Haplogroup in Western Europe (over 50% in many areas), whereas for most Hispanics in New Mexico and most Native Americans it is an "A," "B" or "C" mtDNA Haplogroup. Most Pueblos are "B."

When I got my mtDNA test results I was quite surprised. I matched over 30 other participants. A unique benefit of FTDNA is that it makes it very simple to contact all of your matches who have agreed to participate in sharing. I contacted them all and included what I knew about my maternal line. I was very pleased that over half of them responded quickly with their maternal line information. My mother had told me that she came from British Isles ancestry. What I learned from our mtDNA matches was YES, we had come from England and Scotland, but thanks to the Vikings. My mom would be so pleased to learn this.

I had planned to include in this column an mtDNA Haplogroup Tree with dates, similar to what I included for Y-DNA in my last column. I remember seeing one several months ago, but after several hours of Web searching I have to conclude that it was removed because it had errors or became obsolete because of new findings.

FTDNA provides a spread out mtDNA Haplogroup tree covering multiple pages. Thus, there is no way to use it for this column. However, the neat thing is that when you enter your mtDNA Haplogroup, it tells you how many in their extensive database share your Haplogroup as well as country of origin. This is fun and educational to look at.

You can often get the age of your mtDNA Haplogroup (when the first woman had the unique mutation that split her from her previous Haplogroup) by putting your mtDNA letter into the SEARCH box at www.wikipedia.com or www.eupedia.com. One way to do this is to enter “*mtDNA Haplogroup H*” or whatever your female Haplogroup letter is. You will get lots of information about your deep roots (for “H” on Wikipedia it is 17 pages and for Eupedia it is 27 pages). This includes maps of the distribution of your mtDNA Haplogroup across the world, where scientists have determined your Haplogroup originated and sometimes even the medical conditions which have been observed to be connected with that particular Haplogroup. And please remember that every person who carries that Haplogroup letter is descended from that one woman who first had that mutation. For “H”, that split happened between 20,000 and 25,000 years ago.



DNA results are amazing because they open up many new doors in my genealogy - from finding new cousins to understanding deep roots. I hope you enjoy this new DNA science.