



## **DNA Policy**

### **Policy #96: Adopted March 2023**

DNA testing for genealogy has become immensely popular and has been accepted as valuable in researching Mayflower families as evidenced by the adoption of the Mayflower DNA policy in 2016. There have been many advances in DNA research and analysis tools. The current Mayflower DNA policy needs to be revised to reflect these advances.

#### **Basics of DNA Testing**

We all have 23 pairs of chromosomes with 1-22 called Autosomes. These are the focus of tests by FamilyTreeDNA, MyHeritage, 23andMe and AncestryDNA. The 23rd chromosome is called the sex chromosome and females get an X chromosome from their mother and X chromosome from their father. Males get an X chromosome from their mother and a Y chromosome from their father. Only males have the Y chromosome, and it is passed down from father to son in each generation. Mitochondrial DNA (mtDNA) is found in the mitochondria and is inherited only from the mother and passed down to all her children. Only female children pass the mtDNA on to their children.

#### **What is an Autosomal test?**

As noted above we all have 23 pairs of chromosomes with 1-22 called autosomes. Unlike mtDNA tests or yDNA tests which are of a narrow focus on the direct matrilineal and patrilineal lines, autosomal tests focus on both your parents and their parents and their parents back in time. Unfortunately, this test is not as useful for genealogical purposes because you may not inherit any autosomal DNA from ancestors beyond 5 or 6 generations.

#### **Who can take an Autosomal test?**

All persons, male or female, can take the autosomal test.

#### **Where can I see these Autosomal results?**

The Mayflower Society DNA project is presently hosted by FamilyTreeDNA and can be viewed at <https://www.familytreedna.com/groups/mayflowersociety/about>

If you have taken an autosomal test or transferred your autosomal test results to FTDNA you should be able to see the individuals who match you in your personal reports. Due to the confidentiality only mtDNA and Y-DNA test results are displayed on the Mayflower Society Project results pages. Testers are encouraged to add family information (pedigree trees) to their profiles at FTDNA which can be viewed privately by others who are matches to you.

#### **Can Autosomal results be used to prove a connection?**

Autosomal results will be accepted as evidence in the first three generations to include the applicant, the parents of the applicant or the applicant's grandparents for one generation where traditional documentation is missing or unavailable in the case of sealed adoptions. Autosomal evidence alone will

not be sufficient. Applicants and all testers involved in proving the lineage application must use results from FTDNA only. Other testing company results will not be permitted.

### **What is a Mitochondrial test?**

A Mitochondrial DNA test (mtDNA) traces a person's matrilineal or mother-line ancestry using the DNA in her mitochondria. MtDNA is passed down by the mother, to all her children, both male and female.

### **Who can take a Mitochondrial test?**

All persons, male or female, can take the mitochondrial test.

### **Where can I see these Mitochondrial test results?**

The Mayflower Society DNA project is presently hosted by FamilyTreeDNA and can be viewed at <https://www.familytreedna.com/groups/mayflowersociety/about>

If you have taken a Full Mitochondrial Sequence (FMS) test and opted into sharing your results you should be able to see individuals who match you in your personal reports. Testers are encouraged to add family information (pedigree tree) to their profiles at FTDNA which can be viewed privately by others who are matches to you.

### **Can mitochondrial results be used to prove a connection?**

The Mayflower Society will accept a Full Mitochondrial Sequence (FMS) test only in conjunction with atDNA or Y-DNA as part of a proof argument along with other supporting genealogical evidence where traditional documentation is missing or unavailable. A Full Mitochondrial Sequence test alone will not be sufficient.

### **What is the Y-DNA test?**

There are two types of Y-DNA tests: Short Tandem Repeat (Y-STR) tests and Single Nucleotide Polymorphisms (Y-SNPs). Y-STR tests give you a count of repeats of marker values on the Y chromosome and these can be compared to the marker values of other testers. The closer the number of matches on the marker values the more likely two males may share a common ancestor within a genealogical time frame. FamilyTreeDNA (FTDNA) has the largest Y-Chromosome database and offers tests at the 37 and the 111 marker level and now the BigY700 test. The BigY700 test will identify SNPs or mutations on the Y-Chromosome shared with other male testers. This test will also give you 111 STR markers and at least 589 additional STR markers. This test can be used in some cases to identify direct male ancestors and is more stable than STRs in determining Time to Most Recent Common Ancestor (TMRCA).

### **Who can take a Y-DNA test?**

All men can take a Y-DNA test. If you are female, you could test any male member of your family.

### **Where can I see these Y-DNA results?**

The Mayflower Society DNA project is presently hosted by FamilyTreeDNA and can be viewed at <https://www.familytreedna.com/groups/mayflowersociety/about>

### **Can Y-DNA results be used to prove a connection?**

The Mayflower Society will accept Y-DNA results as part of the proof argument along with other

supporting genealogical evidence for one generation where traditional documentation is missing or unavailable. FTDNA Y-DNA 67 marker or higher test is required for proving lineage. Y-DNA evidence alone will not be sufficient.

### **Can a combination of DNA tests be used to prove a connection?**

If two individuals are related in the first three generations, they may match on the MtDNA as well as the autosomal test if they share the same mother or are a sibling of the mother. If two individuals are related in the first three generations, they may match on the Y-DNA as well as the autosomal test if they share the same father or are a male sibling of the father. DNA evidence alone will not be sufficient without a well-documented paper.

### **Guidelines for using DNA evidence for proof of lineage.**

If DNA evidence is used to prove a lineage, we ask that all tested parties join the Mayflower Society DNA Group Project at FamilyTreeDNA (FTDNA) so the project administrators can verify the DNA results. Where living persons are referenced in an application utilizing DNA evidence, permission from all testers or their legal representatives to use their DNA results in an application is required. Also required is documentation proving the lineage of the test taker, who matches with the applicant. Applicants utilizing DNA evidence must demonstrate a relatively exhaustive search has been completed to find missing genealogical documentation in a generation before DNA evidence may be used. An analysis of all the DNA evidence is required to be submitted with the lineage application. If an applicant applies with inappropriate use of DNA evidence in trying to prove a lineage, then the Mayflower Society reviewers will reject the application, just as they would with the inappropriate use of any other type of evidence.

### **References:**

References: Elizabeth S. Mills - What Constitutes Proof?  
<https://www.evidenceexplained.com/content/quicklesson-8-what-constitutes-proof> Fathers, Sons, Brothers Project <https://www.familytreedna.com/groups/father-son-brother/about> Mayflower DNA Project - Y-DNA Colorized Chart <https://www.familytreedna.com/public/mayflowersociety?iframe=ycolorized> Mayflower DNA Project - mtDNA Test Results for Members <https://www.familytreedna.com/public/mayflowersociety?iframe=mtresults> FamilyTreeDNA Discover <https://discover.familytreedna.com/> The shared cM Project 4.0 tool v4 DNAPainter <https://dnainter.com/tools/sharedcmv4> ISSOGG Glossary [https://isogg.org/wiki/Genetics\\_Glossary](https://isogg.org/wiki/Genetics_Glossary) Y Chromosome [https://isogg.org/wiki/Y\\_chromosome](https://isogg.org/wiki/Y_chromosome) Mitochondrial DNA tests [https://isogg.org/wiki/Mitochondrial\\_DNA\\_tests](https://isogg.org/wiki/Mitochondrial_DNA_tests) Mitochondrial DNA [https://isogg.org/wiki/Mitochondrial\\_DNA](https://isogg.org/wiki/Mitochondrial_DNA)