# What Can I Do With My SMGF DNA Test Results?
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http://xmission.com/~gruf/classes/dnasmgf.pdf

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## Overview
DNA testing is an additional tool in researching your ancestry.  When used in conjunction with traditional research methods it provides additional data that will help you break through brick walls.  The Sorenson Molecular Genealogy Foundation (SMGF) provides free DNA testing, but does not provide you with individual test results.  However, with some empirical testing you can determine the values of your markers for both Y-Chromosome and mtDNA tests, which will allow to match your data with the results from other DNA testing organizations.

## SMGF Test Types
- Tests for the values of 37 markers on Y- Chromosome for samples from males.
- Tests for the values of up to 21 or more markers on mtDNA for males and females.
- Plans to do autosomal DNA testing in the future.
    Go to www.smgf.org to request a free sample kit in the mail.  They use a mouth rinse method.

## A Few Features of the SMGF.ORG Web Site
- Learn about the different types of testing.
- Read about success stories.
- Learn how to match SMGF test results with those from other testing organizations.
- Create a free account to search databases, save search results, and receive additional information.

## Determine Your Y-DNA Marker Values
- Identify your test results by searching for your paternal surname through various locations.
- Make sure it is yours by looking at the associated pedigree chart.
- Note which marker values do not match the defaults.
- Adjust the non-matched marker values for the most likely values for each search.
    - Possible values for each marker are at www.smgf.org/ychromosome/marker_details.jspx
    - Use the table at the end of this outline for the first values to try for each marker.
    - Note that some marker have two or four values.
    - SMGF limits the number of tests you can run on any single day.
- Save your test results in your free account.

## Determine Your Mitochondrial DNA (mtDNA) Test Values
- Identify your test results by searching for the maternal surname variations.
    - You must use the surname of a deceased maternal ancestor.
- Make sure it is the right one by looking at the associated pedigree chart.
- Note which marker values do not match the defaults.
- Adjust the non-matched marker values for the most likely values for each search.
    - The possible values are T, C, G, or A for each marker.
- Save your test results in your free account.

## Using your marker values

        - At www.smgf.org

                - for Y-DNA results, use the Search By Match(%) option to find matches

                - for mtDNA results, use the Search by differences option to find matches

                - You cannot determine who contributed another sample beyond the pedigree chart

      - Use surname DNA mailing lists or message boards to share your information

                - boards.ancestry.com lists.rootsweb.com, genforum.genealogy.com, groups.yahoo.com

      - Use www.YSearch.org and www.YBase.org to compare your Y-DNA test results with others.

      - Use www.mitosearch.org and www.genetree.com to compare your mtDNA test results with others.

Note: You may have to adjust the values in your Y-DNA test results when comparing your test results with the results from other labs.  Make adjustments according to the Marker Standard table at www.smgf.org/ychromosome/marker_standards.jspx .

## Learn about Haplogroups (ancient origins) and determine your likely Haplogroup

      - Y-DNA haplogroups are described and pictured at www.isogg.org/tree/ .

      - mtDNA haplogroups are described at freepages.genealogy.rootsweb.com/~jswdna/mtdna.html .

      - Go to the National Geographic Genographic Project - www.nationalgeographic.com/genographic/.

                - a good overview of the projected migration of both types of haplogroups

      - Predict your Y-DNA haplogroup at http://www.hprg.com/hapest5/ .

      - Predict your mtDNA haplogroup at www.genetree.com .

Note: Real haplogroups are determine by testing for specific mutations in markers that are not part of the Y-DNA or mtDNA tests at SMFG.

## Conclusion

      With a little effort, DNA testing by SMGF can become more useful by finding genealogically meaningful DNA matches in other DNA databases.

Table of most YDNA likely marker values in decreasing order of frequency.  The default (most likely) value is listed first.
extracted from the Marker Details at www.smgf.org/ychromosome/marker_details.jspx

| Marker | Values | Marker | Values |
|---|---|---|---|
| DYS385a,b | use combination frequencies | DYS448 | 19/20/21/18/22 |
| DYS388 | 12/14/13/15/16 | DYS449 | 29/30/28/31/32/27/33/26/34 |
| DYS389B* | 16/17/18/15/19 | DYS452 | 30/31/29/32/33/26 |
| DYS389I | 13/12/14 | DYS454 | 11/12/13 |
| DYS390 | 24/23/25/22/21/26 | DYS455 | 11/8/10/12 |
| DYS391 | 10/11/9/12 | DYS456 | 15/16/14/17/13/18 |
| DYS392 | 13/11/14/12 | DYS458 | 17/16/15/18/19/14/20 |
| DYS393 | 13/14/12/15 | DYS459a.b | use combination frequencies |
| DYS394/19 | 14/15/16/13/17 | DYS460 | 11/10/12/9 |
| DYS426 | 12/11/13 | DYS461 | 12/11/13/14/10 |
| DYS437 | 15/14/16 | DYS462 | 11/12/13/10 |
| DYS438 | 12/10/11/9/13 | DYS463 | 24/21/22/20/23/25/18 |
| DYS439 | 12/11/13/10/14 | DYS464a,b,c,d | use combination frequencies |
| DYS441 | 14/15/17/16/13/18 | GGAAT1B07 | 10/11/9/12/13 |
| DYS442 | 17/16/18/19/15 | YCAIIa,b | use combination frequencies |
| DYS444 | 12/13/14/11/15/10 | YGATAA10 | 15/14/16/13/17 |
| DYS445 | 12/11/10/13 | YGATAC4 | 23/21/22/24/20/25 |
| DYS446 | 13/14/15/11/16/10 | GATAH4.1 | 21/20/22/19 |
| DYS447 | 25/24/26/23/27/22 | | |

The above table does not include values that appear in less than 1% of the samples tested.  Those other values need to be inserted if the above do not apply in your test results.