



DNA testing

Thanks for your enquiry about DNA testing. I oversee the Scottish DNA Project on behalf of the University of Strathclyde, Glasgow and act as representative for Family Tree DNA who host our project.

Family Tree DNA is the lead test company for genealogical and deep ancestry testing in the world and work in partnership with the [National Geographic Project](#).



The following information is provided to help you order your DNA test kit. Once you have ordered the type and level of test you desire, they are sent to you directly from the United Kingdom. Our website has most of the information below including current prices so please check it out in the first instance

http://www.yourscottishancestry.com/section.php/17/1/dna_test_kits

Scottish DNA Project

The Scottish DNA Project takes results for both Y-DNA (paternal/surname line) and mtDNA (maternal line). The project has been running since late 2001 and is the third largest geographical project in the world. We currently (June 2013) have over 5800 participants. There are many other individuals who have tested, but who have not joined the Scottish DNA Project. The Family Tree DNA database has some 12,000 paternal and 8000 maternal results from testers who indicate Scotland as their country of origin.

Results for Y-DNA (surnames) can be seen here:

<http://www.familytreedna.com/public/Scottishdna/default.aspx?section=yresults>

Female mtDNA results are here:

<http://www.familytreedna.com/public/Scottishdna/default.aspx?section=mtresults>

You do not need to join the Scottish DNA project or be Scottish to purchase a kit from us. We can join your kit to any project you wish to be associated with which is hosted by Family Tree DNA.

What do you get when you decide to test?

The sample is taken with a simple mouth swab...no blood is involved. There will be instructions included on how to take the sample.

Once the test kit is returned to the laboratory in Houston (return postage is attached from the UK) an email with a password is sent to the participant to access their Family

Tree DNA personal user pages. Within *myFTDNA*, personal details can be changed, results accessed, matches contacted, projects joined and upgrades ordered. To see what an account looks like there is a Demo available where you can get a feel for the user pages and presentation of results. You can click on all the buttons and tabs within the account and play around. <https://www.familytreedna.com/login.aspx?a=demo>

Each kit is allocated a kit number and personal details are not published or made known in anyway.

Kits can be allocated to any specific Family Tree DNA project which you may wish to join. There are over 7500 surname projects hosted by Family Tree DNA. When choosing a testing company the size of the database is critical as is whether there are well run projects for surname, deep ancestry (haplogroups) or special interest groups. Family Tree DNA excels in all these areas.

Deciding on the right test

It is important to be clear what you wish to find out through DNA testing and then choose the correct type of test to accomplish that goal. We can help you in this process so get in touch if you are unsure.

There are three types of test available so it is important to know what each type of test can accomplish. Different types of DNA are inherited differently by men and women so it is also necessary to identify the right person for the specific test under consideration.

Your goal might be to corroborate documentary research or it might be you have come to a dead end with traditional research. Perhaps you wish to overcome a known illegitimacy discovered in your research or wish to participate in the DNA project for your surname. Paternal (surname) research requires a male to take the test therefore females need to identify a proxy to take the test in their place.

Perhaps you wish to discover where your surname originated geographically in the British Isles, Europe or elsewhere or learn whether it can be identified with markers indicative of a historic people group or population. Labels such as Norse, indigenous Pict or Briton, Anglo-Saxon or Niall from Ireland are often quoted by some vendors, but attributing these to a specific marker needs treated with caution until data is published in peer reviewed academic journals.

DNA specifically from your maternal line can be tested as can another type of DNA inherited from all your ancestral lines. Adoptees can now identify genetic cousins and find family. Close relationships within the last 5 generations can be confirmed such as whether two individuals are full-siblings or half-siblings.

All these scenarios have a specific test best suited to achieve an outcome.

I would thoroughly recommend the short online educational videos on genetic genealogy produced by the University of Utah available here:

<http://learn.genetics.utah.edu/content/extras/molgen/index.html>

In summary, what can DNA testing do and when it is useful? It can:

- 1) find connections between two individuals with the same surname
- 2) indicate when two individuals shared a common ancestor within a time frame
- 3) prove whether families with the same surname are related
- 4) eliminate individuals or families with the same surname as not being related

- 5) identify there has been change of surname, variation in surname and use of an alias
- 6) complement one-name studies - prove that individuals bearing the same surname are related and/or show multiple origins for the name
- 7) reveal uncertain paternity through illegitimacy or adoption
- 8) prove whether family stories and origin histories are true
- 9) interrogate and corroborate conventional documentary research linking individuals and families
- 10) enable colonials and the descendants of diasporas to identify their geographical origins
- 11) track ancestral migration both ancient and within historical times

DNA testing cannot:

- a) necessarily pinpoint the exact date and specific ancestor shared by two individuals who have a close Y-DNA or mtDNA match
- b) provide a complete answer to your recent ancestry even if two participants have a good paper trail
- c) replace traditional genealogical research
- d) shed much light unless compared with the test results of other individuals

Genetic genealogy is the combination of personal genetic testing results and traditional genealogical evidence.

Surnames – genealogical and deep ancestral origin

There are two types of test for researching the male (paternal) line. They use different types of markers and have different purposes. If you have read in the press or heard on the radio about 'deep ancestry' testing, then markers called SNPs are used. Certain of these SNPs (Single Nucleotide Polymorphisms) are used to define branching on the male paternal tree.

Many of these markers are geographically specific and thus when combined with known documentary, historical and migration data can infer possible population and geographical origin.

As stated earlier some of these markers have been given 'labels' such as indigenous Pictish or British, Norse, Roman, Anglo-Saxon, Dalriadic, Frisian or Niall from Ireland, but extreme care needs to be taken in using these terms. There are in fact dozens of distinct genetic families emerging and we feel it best to report the geographical predominance of a marker than give it a label until peer reviewed academic publication has been provided about specific markers.

SNP markers are not used to compare and match individuals within a genealogical time frame, but used to confirm the deeper geographical origin of a surname and identify the common genetic ancestry of various lineages which carry different surnames.

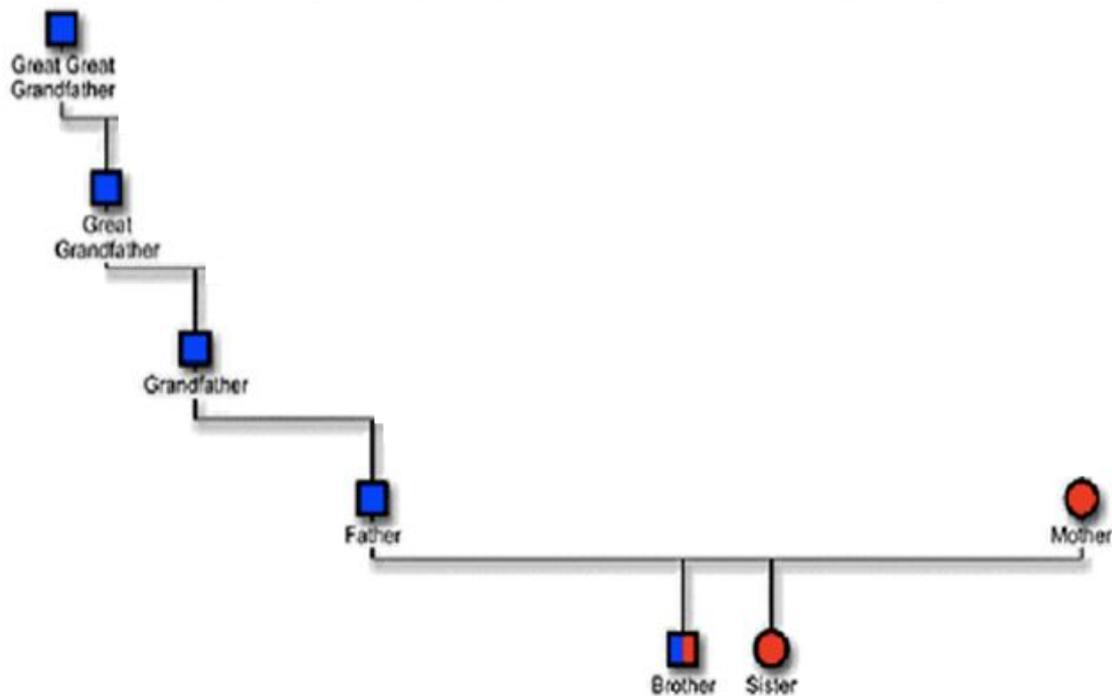
Testing for the deep ancestral origin of a paternal lineage is done after the standard 37 or 67 marker test used for genealogical purposes. These advanced tests are an important area of research for understanding the origin, growth and migration of both paternal and maternal lineages.

Surname research : Y-DNA tests

For surname research we recommend as a minimum the 37 marker Y-DNA test. This is a male specific test as women do not carry a Y-Chromosome. In general a 37 marker test is sufficient to determine if two individuals are connected within a genealogical timeframe. By upgrading to 67 markers the time to the most recent common ancestor (TMRCA) between matching individuals can be further defined. Upgrading at a later date from 37 to 67 markers is an option if cost is an issue.

Confirmation of deep paternal ancestral origin to establish which genetic population you may belong may require a further test if you do not have any close matches on 37 or 67 markers who have already tested for these defining markers (called SNPs).

The following diagram illustrates Y-Chromosome DNA inheritance. As can be seen the daughter has no 'blue' as she cannot inherit Y-DNA. Red indicates mitochondrial DNA inheritance.



37 marker test

Results identify the ethnic population and geographic origin of the paternal line. It includes a balanced panel of thirty-seven Y-Chromosome Short Tandem Repeat (STR) markers. This is the recommended test to trace the paternal ancestry of males for genealogical purposes.

The test does not identify the name of a common ancestor or the exact generation shared by two matching individuals. What it does provide is a balance of probability that the testers shared a common ancestor within a number of generations.

For example, a 50% probability that the common shared ancestor was within 8 generations or a 95% probability that the common ancestors was within 12 generations. By combining results with traditional documentary genealogical evidence, maximising the number of markers tested and testing other individuals from both lineages, the time frame to a common ancestor can be further defined.

A perfect match at thirty-seven markers indicates that two individuals share common ancestry in recent times. A haplogroup (genetic family) is determined and backed by Family Tree DNA's SNP Assurance Program. When another person shows identical

results within the FTDNA database, if both parties have signed the Family Tree DNA Release Form, then they will be informed of the match. The customer will also receive a certificate and report describing the testing process and the meaning of thirty-seven marker matches.

67 marker test

Results identify the ethnic population and geographic origin of the paternal line. It includes a balanced panel of sixty-seven Y-Chromosome Short Tandem Repeat (STR) markers. The additional markers refine the predicted time period in which two individuals are related and eliminates unrelated matches.

A perfect match at sixty-seven markers indicates a common ancestor in very recent times. This is the ideal test for matching if a break in the paper trail, such as an adoption, is known or suspected. A haplogroup (genetic family) is determined and backed by Family Tree DNA's SNP Assurance Program. When another person shows identical results within the FTDNA database, if both parties have signed the Family Tree DNA Release Form, then they will be informed of the match. The customer will also receive a certificate and report describing the testing process and the meaning of sixty-seven marker matches.

Maternal line: mtDNA tests

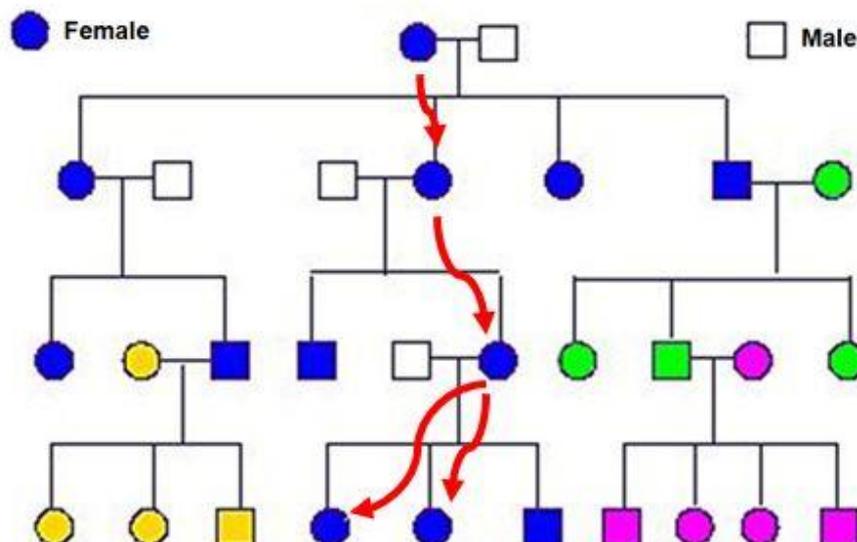
Both men and women can take this test. Mitochondrial DNA (mtDNA) mutates less often than male Y-DNA thus the time in years between matching individuals can be larger and harder to define to a time period. mtDNA is passed from a mother to all her children. Men do not pass it on to their children

There are three levels of test available: basic, plus and full sequence. The basic mtDNA test following the direct female line will tell you a haplogroup (genetic family) and its origin. The mtDNAplus test will give some closer matches, but for a genealogical timeframe the mtDNA Full Sequence is most helpful.

The Full Sequence test sequences the entire mitochondrial genome and is the only and final mtDNA test you would ever need to take. Deep ancestral origins are confirmed with the mtDNAplus or the mtDNA Full Sequence test

The diagram below illustrates female inheritance. The round icons are females, the square males. The image illustrates mitochondrial inheritance of the round blue woman.

mtDNA inheritance

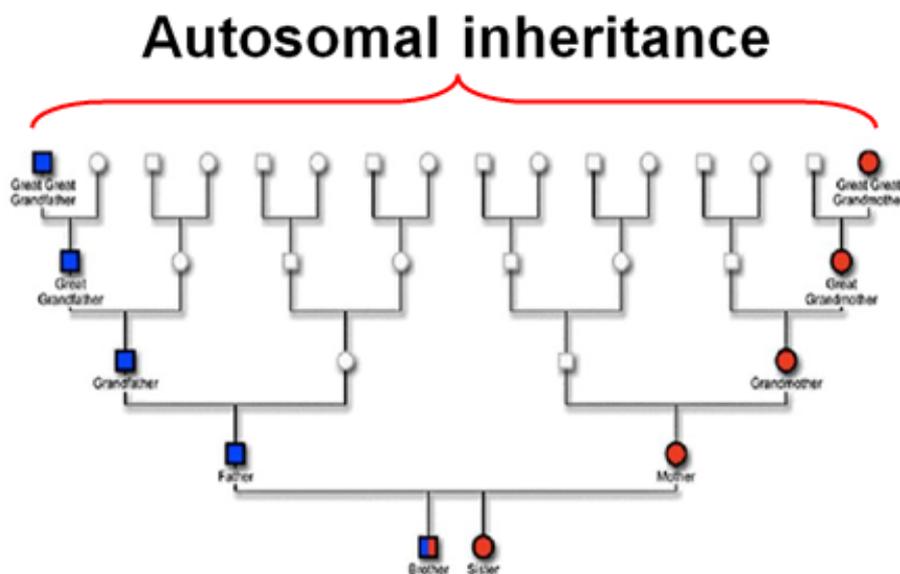


Close ancestry on all lineages: Family Finder test

Family Finder - both men and women can take this test. The Family Finder test measures DNA inherited from your 16 great great-grandparents. It uses autosomal DNA inherited from both parents (a randomly shuffled 50% from each parent), who in turn inherited it from their parents.

The test provides matches to relatives descended from any of your ancestral lines within approximately the last 5 generations. If you are interested in using DNA for close genealogical relationships (within the past 5 generations) that cross gender lines or if you are curious about your ethnic population percentages, Family Finder is the right choice.

The diagram below shows all 16 great great-grandparents who contribute to your autosomal DNA. The blue coloured male Y-chromosome and the red coloured mitochondrial DNA are not tested using Family Finder.



This test works best if you combine it with traditional documentary research on each line which has identified surnames. Family Finder also has a population origin element and will provide a breakdown of your ethnic percentages.

Family Finder is also a very useful avenue of research for adoptees to enable identification of ancestral surnames and make contact with relatives. Close cousins relationships back 5 generations share a known range of shared DNA from a common ancestor.

Shared DNA percentages with close relations

50% mother, father and siblings

25% grandfathers, grandmothers, aunts, uncles, half-siblings, double first cousins

12.5% first cousins, half-aunts/uncles, half-nephews/nieces

6.25% first cousins once removed

3.125% second cousins, first cousins twice removed

0.781% third cousins

Therefore, Family Finder can reveal whether individuals are full siblings or half-siblings and identify new cousins where there is a known illegitimacy with a parent or grandparent. These matches can then be used to identify possible documentary sources.

DNA test results explained

If you are new to the world of genetic genealogy it can be a daunting prospect to try to understanding the terminology and exactly what the results have found. **Your Scottish Ancestry** offers a product called *DNA test results explained* which will enable you to buy one hour of our time.

We will communicate with you via email. After you have received your FTDNA login details we will assess your results and matches.

- We can help you interpret the results and explain what they have revealed and what they mean
- We will seek to identify your deep ancestral origin (this does depend on the actual results)
- We will seek to identify your more recent paternal or maternal geographical origin
- The genealogical relationship you have with your matches and the time to a common ancestor
- Advice on interpretation of Family Finder results
- Advice on any suitable further tests to further your research and confirm relationships
- Advice on suitable projects i.e. haplogroup or special interest groups

If you have not chosen a test yet:

- We can help you decide on the correct product to order depending on your research question(s) and who is available to test

This product can only be used for the investigation of the results from one type of test you have undertaken at a time. You are buying one hour of research time from **Your Scottish Ancestry**.

DNA results of each individual are unique. Results are partly dependent on your genetic cousins having tested and each of your lineages having produced children. **Your Scottish Ancestry** cannot guarantee you will have matches immediately or that a full or final interpretation of your results will be possible.

The product and the service offered are provided in good faith and with the above proviso.

Prices

Family Tree DNA in the United Kingdom is exactly the same as in the United States. Projects are just the same, the only difference is we supply kits from the UK and allow payment in £ Sterling. You can thus avoid possible currency conversion charges and save time waiting for your kit to be sent the USA. Processing is still undertaken in the laboratory in the United States.

Family Tree DNA test kits		
Y-DNA 12	Male only test	£38.00
Y-DNA 37 - Recommended for surname research	Male only test	£94.00
Y-DNA 67 - Recommended for surname research	Male only test	£149.00
Y-DNA 111	Male only test	£213.00
Y-DNA 25	Male only test	£79.00
Y-DNA 37+mtDNAPlus	Male only test	£145.00
Y-DNA 67+mtDNAPlus	Male only test	£188.00
Y-DNA 37+mtDNA Full Sequence	Male only test	£228.00
Y-DNA 67+mtDNA Full Sequence (Super DNA)	Male only test	£284.00
mtDNAPlus	Male/female test	£38.00
mtFullSequence	Male/female test	£134.00
Family Finder	Male/female test	£74.00
Family Finder + mtDNAPlus	Male/female test	£112.00
Family Finder + mtFullSequence	Male/female test	£199.00
Family Finder + Y-DNA12	Male only test	£110.00
Family Finder + Y-DNA37	Male only test	£168.00
Family Finder + Y-DNA67	Male only test	£223.00
Comprehensive Genome = Y-DNA 67 & mtDNA Full Sequence and Family Finder test	Male only test	£357.00
DNA results explained	1 hour	£25.00

Ordering

All prices noted above and on our website exclude postage which is £4.40 (UK). This covers UK first class postage and airmail back to the United States which we add to the return envelope. Payment can be made by three methods:

1. Website: Kits can be purchased through our website using secure processing by Sage Pay: http://www.yourscottishancestry.com/section.php/17/1/dna_test_kits

2. PayPal: If you would like to purchase via PayPal please email to arrange a payment request be sent to your email address along with an order form.

- Please fill out the order form and return to aldasair@familytreedna.com
- Please highlight the product being ordered
- On return of the form and payment we will post the kit

3. Cheque: Payment can be made out to **Your Scottish Ancestry** and sent to our address noted below.

- Please fill out the order form and return to aldasair@familytreedna.com
- Please highlight the product being ordered
- On return of the form and payment we will post the kit

Surcharge: Payment by PayPal or credit/debit card not processed through our website incurs a 3% surcharge.

To order a DNA kit, go to <http://www.yourscottishancestry.com/>

Please don't hesitate to get in contact if you have any questions.

Every good wish,
Alasdair Macdonald

DNA testing version 2.0

Contact details

Mailing address:

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Currie, Midlothian
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Scotland
United Kingdom

Email: aldasair@familytreedna.com

Tel: (44) 0131 449 7830

Mobile: 07847 576 910

Websites

Website: <http://www.yourscottishancestry.com/>

Blog: <http://yourscottishancestry.blogspot.com/>

Scottish DNA Project:

<http://www.scottishdna.net/>

<http://www.familytreedna.com/public/Scottishdna/default.aspx>

<http://scottishdna.blogspot.co.uk/>

Other national projects hosted at Family Tree DNA:

British Isles - <http://www.britishislesdna.com/>

Ireland - [Ireland Heritage DNA Project](#)

Ulster - <http://ulsterheritagedna.ulsterheritage.com/>

Wales - <http://www.genpage.com/walesdnaproject.html>

Further reading:

International Society of Genetic Genealogy

http://www.isogg.org/wiki/Wiki_Welcome_Page

Kit Number	
First Name	
Middle Name	
Last Name	
Address1	
Address2	
Address3	
City	
County	
Postcode	
Country	
Phone No:	
E-mail: 1	
E-mail: 2	
Products ordered	
Y-DNA 12 marker	mt DNA Plus
Y-DNA 25 marker	mt DNA Full Sequence
Y-DNA 37 marker	
Y-DNA 67 marker	
Y-DNA 111 marker	Y-DNA 37 + mtDNAPlus
	Y-DNA 67 + mtDNAPlus
Family Finder	
Family Finder + Y-DNA 12	Family Finder + mt DNAPlus
Family Finder + Y-DNA 37	Family Finder + mt DNA Full Sequence
Family Finder + Y-DNA 67	
Y-DNA 67 & mt DNA Full Sequence (Super DNA)	Comprehensive Genome - Y-DNA 67 & mt DNA Full Sequence & Family Finder

Kit Number	
First Name	
Middle Name	
Last Name	
Address1	
Address2	
Address3	
City	
County	
Postcode	
Country	
Phone No:	
E-mail: 1	
E-mail: 2	
Products ordered	
Y-DNA 12 marker	mt DNA Plus
Y-DNA 25 marker	mt DNA Full Sequence
Y-DNA 37 marker	
Y-DNA 67 marker	
Y-DNA 111 marker	Y-DNA 37 + mtDNAPlus
	Y-DNA 67 + mtDNAPlus
Family Finder	
Family Finder + Y-DNA 12	Family Finder + mt DNAPlus
Family Finder + Y-DNA 37	Family Finder + mt DNA Full Sequence
Family Finder + Y-DNA 67	
Y-DNA 67 & mt DNA Full Sequence (Super DNA)	Comprehensive Genome - Y-DNA 67 & mt DNA Full Sequence & Family Finder