



# Tracking Your Roots With DNA

Genetic Genealogy

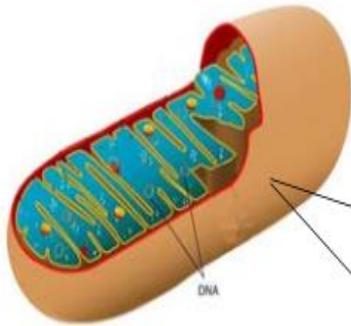
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31 Oct 2013/27 Jun 2014  
Andalusia, Alabama

# Why DNA test?

- Determine if two people are related
- Determine if two people descend from the same ancestor
- Determine if you are related to others with the same surname
- Prove/disprove your family tree research
- Go beyond brick wall in genealogy
- Ancestry composition/ethnic origins
- Find out about genetic risk factors in health

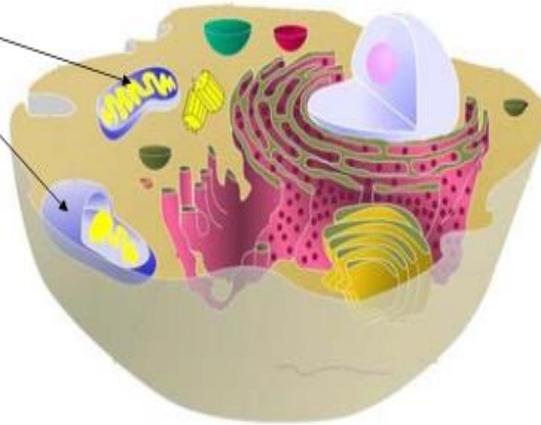


# The Human DNA Genome within a Cell



The Nucleus = control center for the cell (one per cell)

Mitochondria = the power houses for the cell (hundreds per cell)



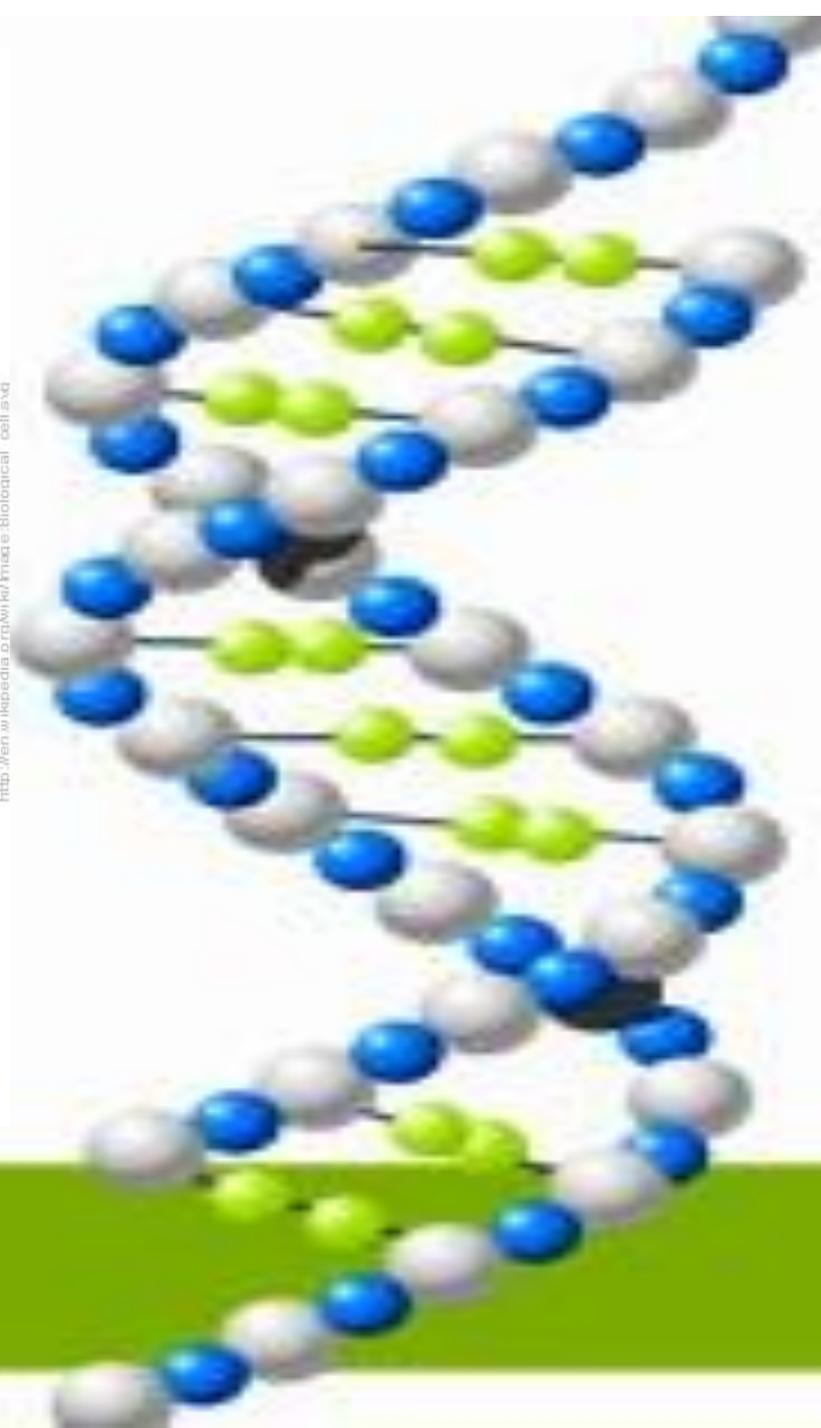
**Mitochondrial DNA**  
(16,569 bp)

Inherited from only your mother

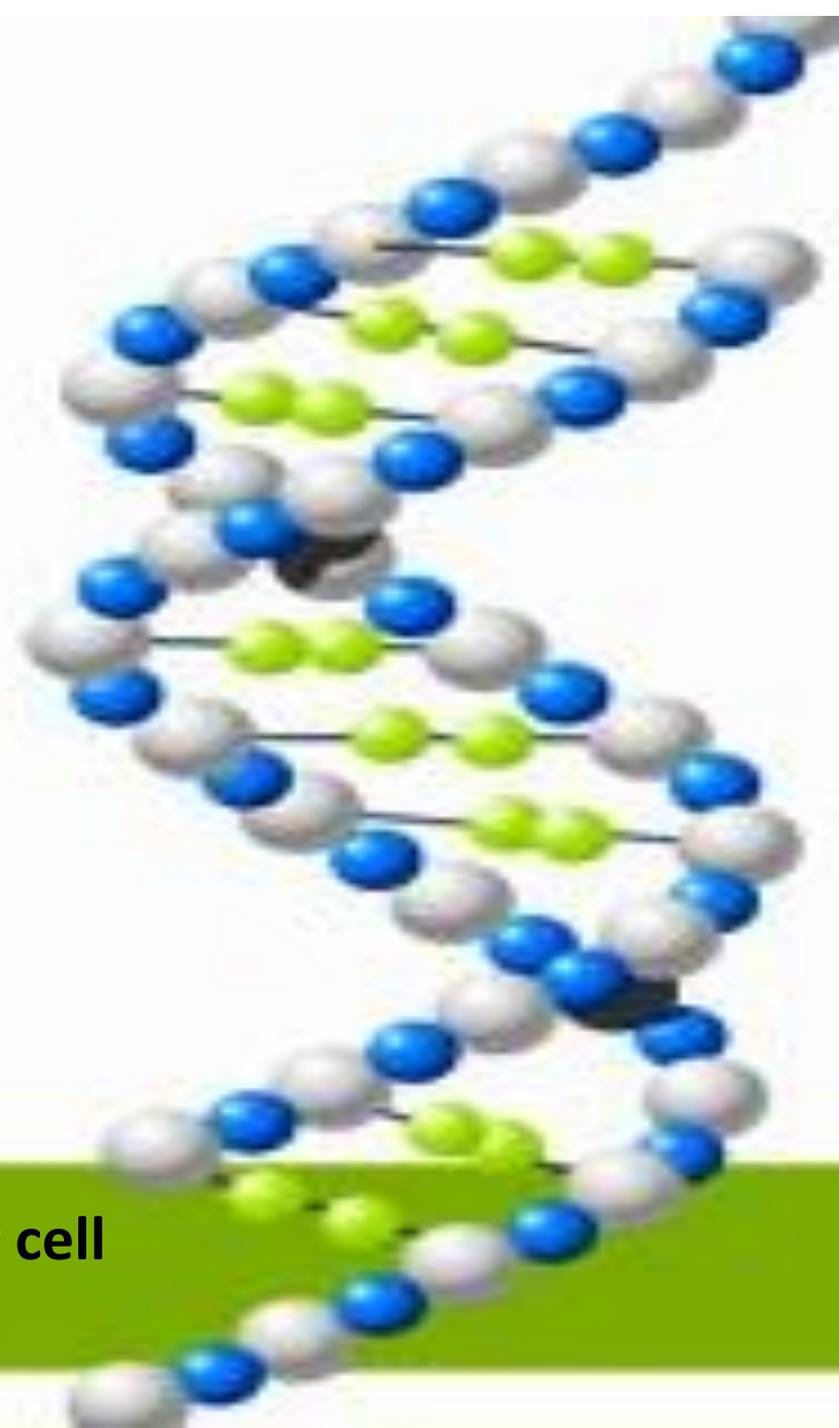
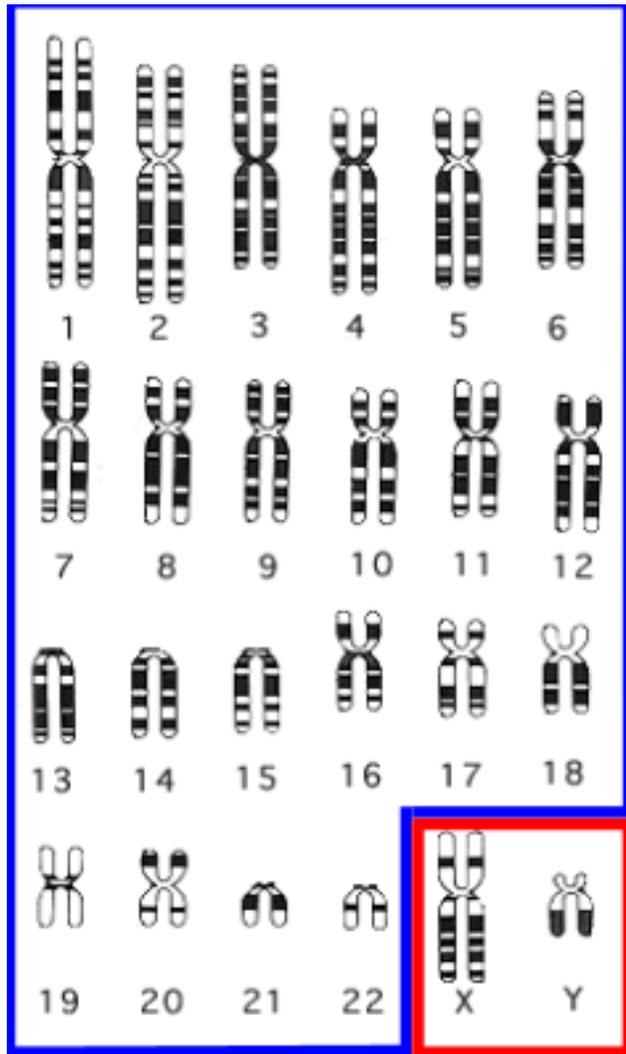
**Nuclear DNA**  
(3.2 billion bp)

Inherited from both your mother and your father

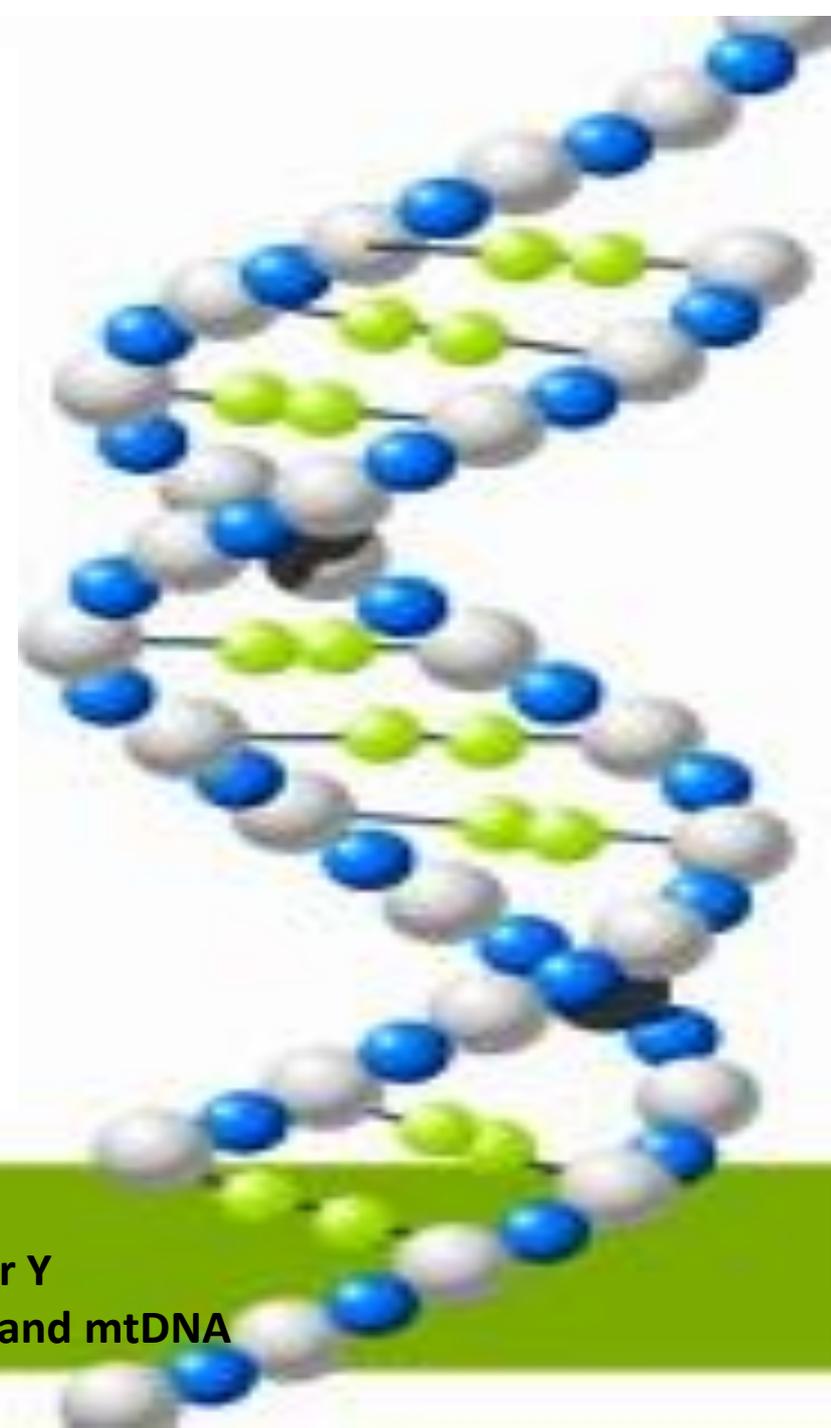
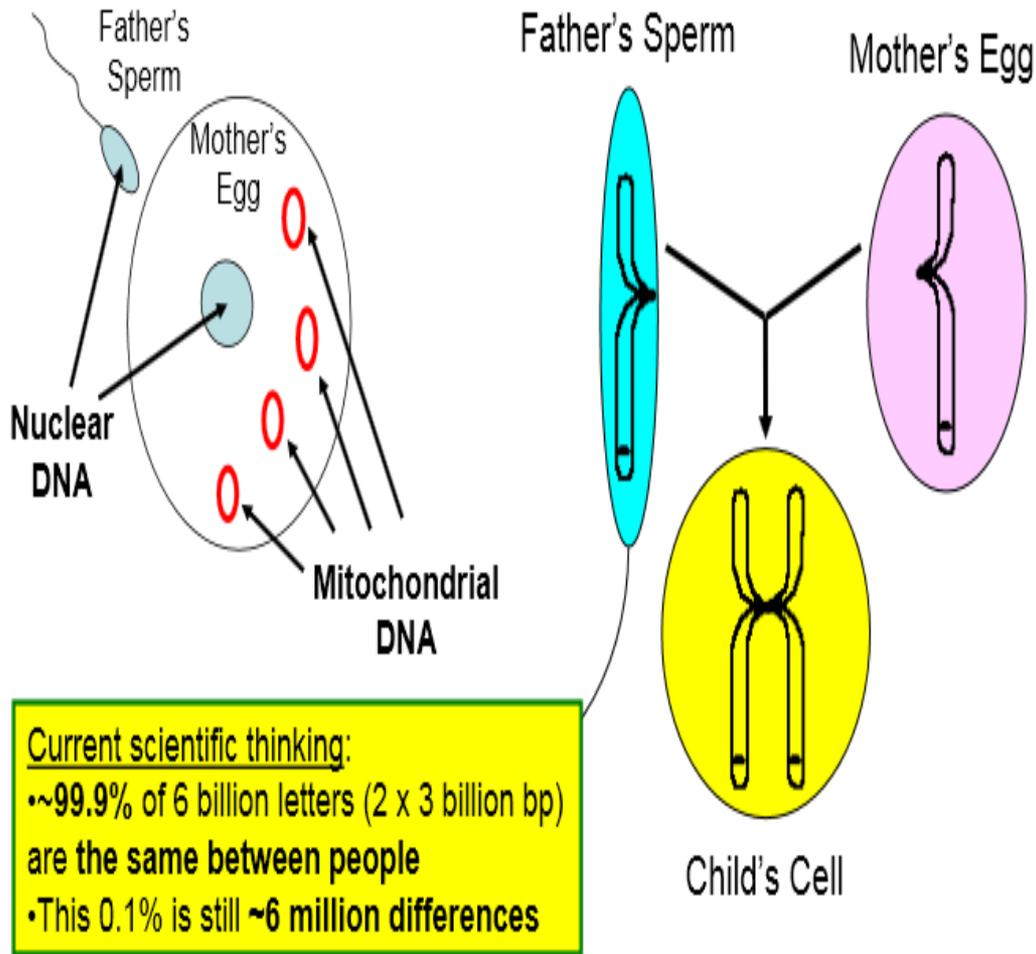
[http://en.wikipedia.org/wiki/Image:Biological\\_cell.svg](http://en.wikipedia.org/wiki/Image:Biological_cell.svg)



[http://en.wikipedia.org/wiki/Image:Diagram\\_of\\_an\\_animal\\_mitochondrion.svg](http://en.wikipedia.org/wiki/Image:Diagram_of_an_animal_mitochondrion.svg)



**22 pairs of autosomes – 2 copies per cell**  
**Sex chromosomes XX or XY**



## Genetic Inheritance:

Father contributes 22 autosomes (1 of each pair), X or Y

Mother contributes 22 autosomes (1 of each pair), X and mtDNA

### Y DNA testing:

- Y chromosome DNA
- Passed from father to son unchanged (unless a mutation occurs)

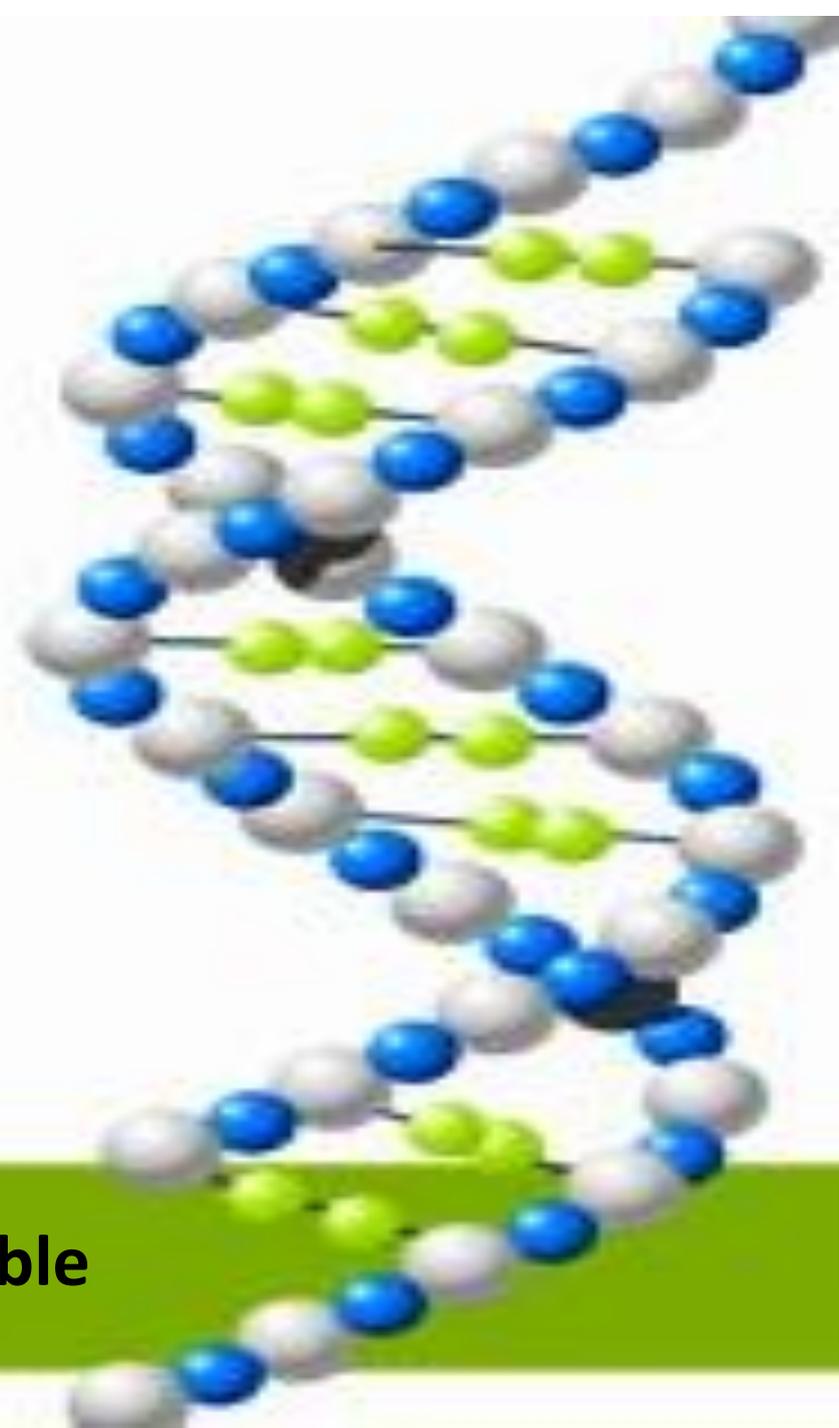
### mtDNA testing

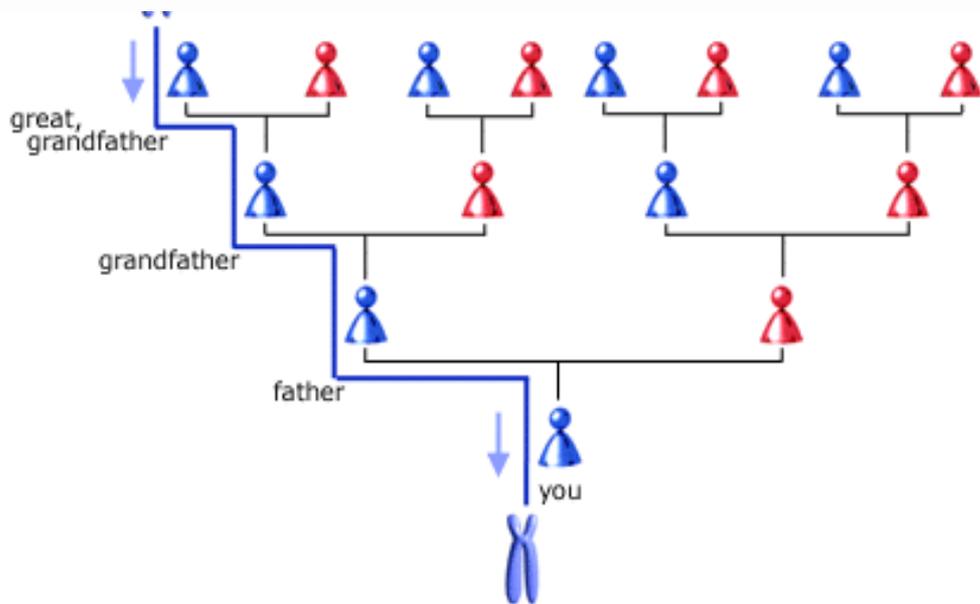
- Mitochondrial DNA
- Passed from mother to children unchanged (unless a mutation occurs)

### atDNA testing

- Testing across all 22 autosomes
- Tests DNA from all ancestral lines
- Most effective for near kinships (5-6 generations)

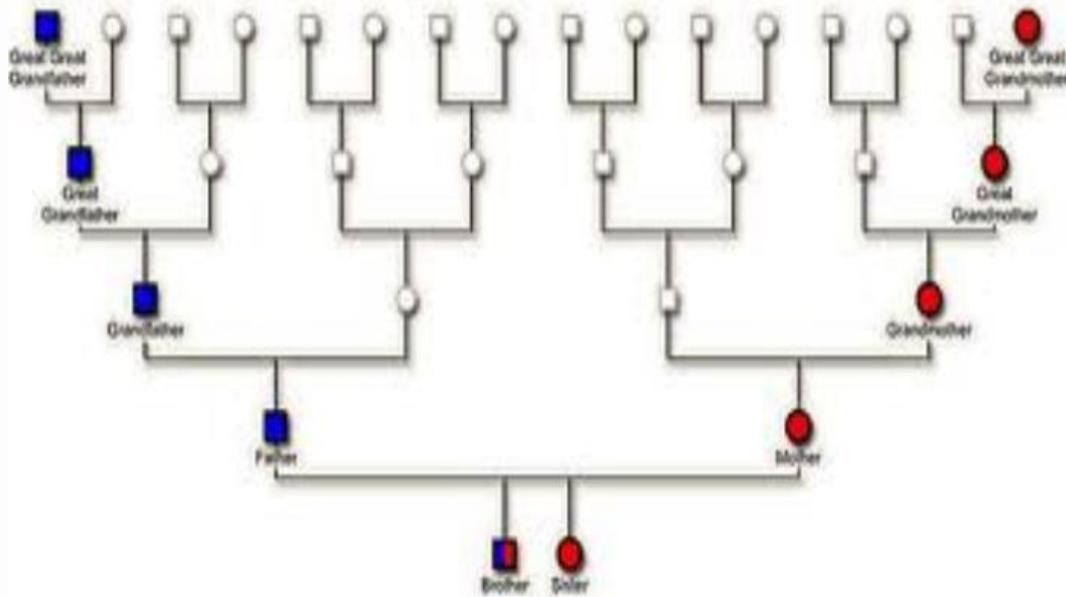
**Three types of DNA testing available**





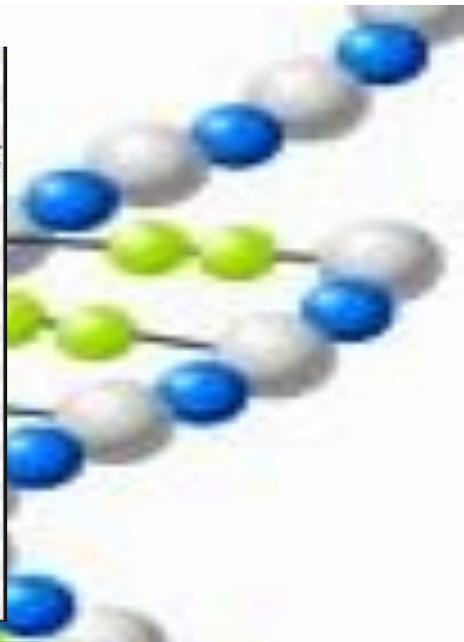
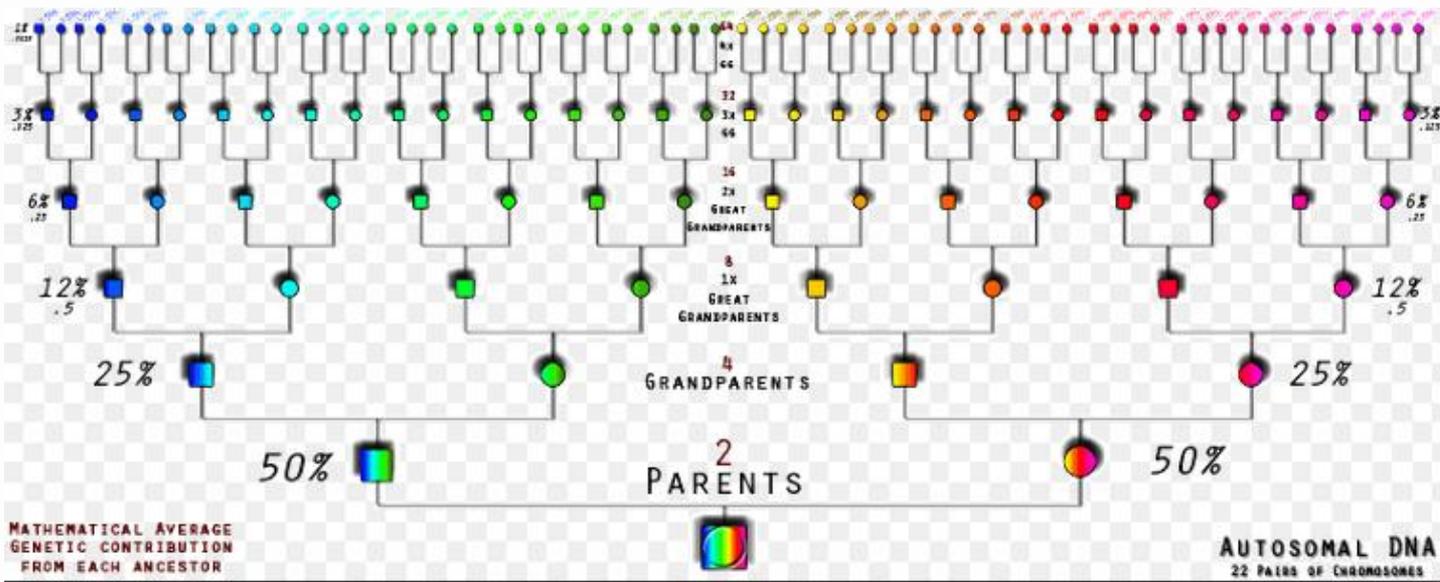
Largely utilized in surname projects at FTDNA, as it tests male DNA only. Used to confirm related lines and identify lost family lineages.

## Y DNA Testing

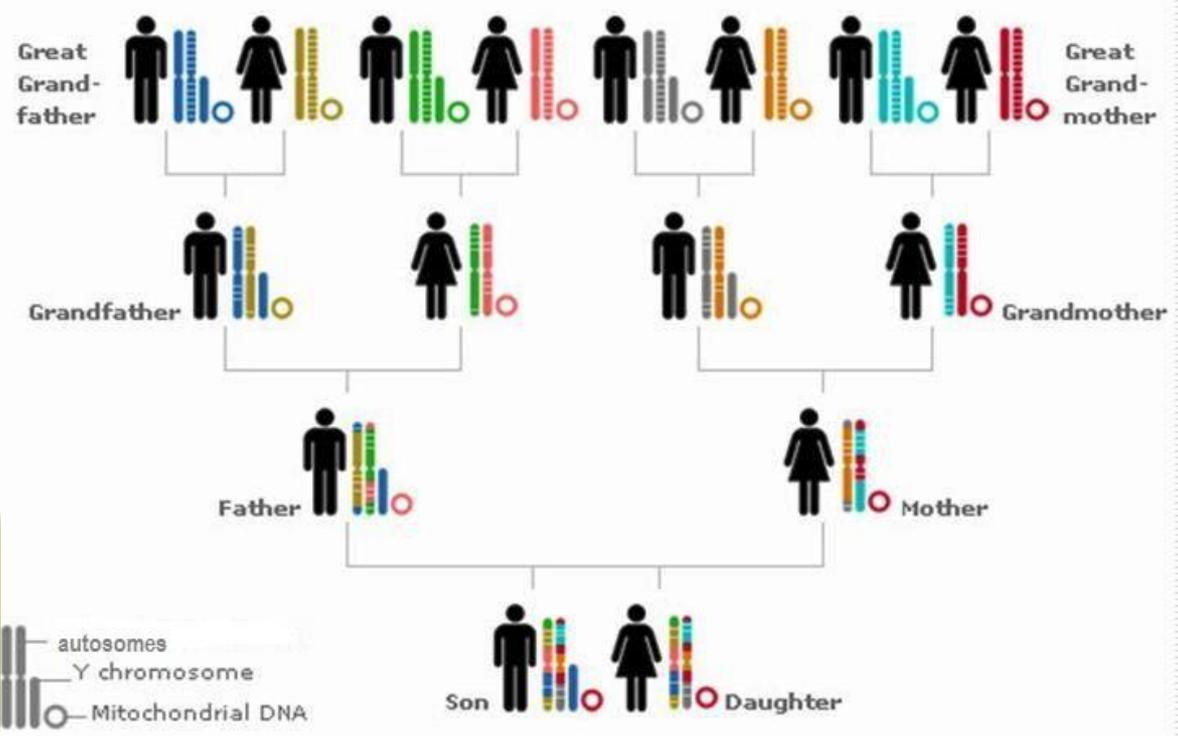


Typically more difficult to organize as women tend to change surnames upon marriage, but it too can be effectively used to confirm kinships and identify lost family lineages.

## mtDNA Testing



As you move forward in time less and less DNA inherited is passed from the most distant ancestors



# atDNA Testing

Company	23andMe	Family Tree DNA's Family Finder test	Ancestry.com's AncestryDNA test
Primary purpose for which the test was designed	Medical Genealogical Personal Ancestry	Genealogical Personal Ancestry (Autosomal only)	Genealogical Personal Ancestry (Autosomal only?)
Website	<a href="http://www.23andme.com">www.23andme.com</a>	<a href="http://www.familytreedna.com">www.familytreedna.com</a>	<a href="http://dna.ancestry.com">http://dna.ancestry.com</a>
Address	1390 Shorebird Way, Mountain View, CA 94043	1445 North Loop West, Suite 820, Houston, TX 77008	360 W 4800 N Provo, UT 84604
Phone Number	650-963-6300 (press 1 for customer service and then 1 for existing customer)	713-868-1438	800-958-9124 (best for DNA related questions) or 800-262-3787 (in the U. S.); 0800-404-9723 (UK); 800-958-9073 (Canada); 800-252-838 (Australia)
E-mail address	<a href="mailto:customercare@23andme.com">customercare@23andme.com</a>	<a href="mailto:helpdesk@familytreedna.com">helpdesk@familytreedna.com</a>	<a href="mailto:ancestrydna_support@custhelp.com">ancestrydna_support@custhelp.com</a>
Date product launched	November 19, 2007	February 16, 2010	May 3, 2012
Price (as of 17 Apr 2013)	\$99 for the lifetime of the platform	\$199 for the lifetime of the platform	\$99 in the U.S. only (an Ancestry subscription is required to access some features)
Shipping charges	\$14.95 for the first kit and \$5 per kit for additional kits in the U. S.; \$79.95 for the UK; price for other countries varies, but tends to range between \$66.95 and \$94.95	\$5 for the U. S. and \$7 for international orders	\$9.95 per kit
International product availability	56 countries	Worldwide	United States only at this time
Method for collecting the DNA sample	saliva sample (about 1 cc)	cheek swab	saliva sample (about 1/2 cc)
DNA sample storage	yes, indefinitely	yes, for a minimum of 25 years	no
SNP chip used for testing	Customized Illumina chip	Illumina OmniExpress	Illumina OmniExpress
Number of autosomal SNPs tested	967,000	708,092	682,549
Number of Y chromosome SNPs	3089	None	885 (labeled as chromosome 24)
Number of X chromosome SNPs	26,087	18,091	17,604 (labeled as chromosome 23), plus 440 SNPs labeled as chromosome 25 that are either from chromosome X or from the pseudoautosomal regions of the Y chromosome
Number of mitochondrial DNA SNPs	2737	None	None
Number of people in the database (as of 1 July 2013)	Over 300,000	About 50,000	Over 120,000
Medically related SNP data included in data	Yes	No	Yes
Download of raw data file allowed	Yes	Yes	Yes
Upload of raw data file allowed from other companies	No	Yes: 23andMe V3 files Ancestry.com files	No
GEDCOM file upload allowed	Yes	Yes	Link is created to Ancestry.com pedigree charts
Projects supported	No	Yes	No
Means of contacting people who share matching segments	Contact may be made after seeing your list of matches in DNA Relatives or Ancestry Finder; the matches must be willing to share genomes with you if you are to see what segments you share with your matches	E-mail addresses of all matches are available	Contact can be made through Ancestry.com's messaging system

Live demo



**23 and me**

The screenshot shows the 23andMe website interface. At the top, there are navigation tabs: HOME, MY RESULTS, FAMILY & FRIENDS, and RESEARCH & COMMUNITY. A red arrow points from the text on the right to the 'FAMILY & FRIENDS' tab. Below the navigation, there are several feature cards: 'DNA RELATIVES' (View 23andMe members who share DNA with you), 'MANAGE SHARING' (Share with friends and family), 'FAMILY TREE' (Build and share your family tree), 'FAMILY TRAITS' (Trace your DNA across generations), and 'GENE COMPARISON' (See how similar you are to your 23andMe connections). Below these are more cards: 'BRITISH AND IRISH' (26.4%), 'ANCESTRY COMPOSITION', 'HEALTH OVERVIEW', 'NEANDERTHAL ANCESTRY' (2.7%), and 'FERTILITY SURVEY' (TAKE SURVEY). At the bottom, there is a 'FEATURED CONTENT' section with 'Key Health Recommendations' (NEW FEATURE) and 'QUICK QUESTIONS' (Q: A, do you cry easily? Yes, No, I'm not sure. SUBMIT ANSWER, SKIP QUESTION). A URL bar at the bottom left shows <https://www.23andme.com/user/profile/sharing/>.

Click FAMILY &\* FRIENDS and select MANAGE SHARING, if you have known cousins with kits & would like to set up sharing in advance of your results posting to save time.

Things you can do after you register your kit (and before you have results)

GENOME SHARING



SHARE YOUR GENOME  
How does sharing work?

Sea

### Connect with Family and Friends

23andMe gets even better when enjoyed with your family and friends. By *sharing* results with them, you can:

- Understand your results better by comparing with people you know. Learn fun things you can't find anywhere else – who's got the most Neanderthal DNA?
- Share with a parent to activate [ancestry feature improvements](#) that rely on his or her DNA.
- [Learn more](#) about how sharing works and what you should consider before sharing.

Email  
whatever@yahoo.com

Relationship (optional)  
Cousin

#### Profiles to share

- A
- B
- C
- I
- L
- S
- T
- Z

#### Sharing Level

- Sharing, without health reports.
- Sharing, with health reports.

Message

INVITE CANCEL

Click the button and enter the email address of your relative & select a kit to share (if you have multiple kits on a single account). Select sharing without health reports and enter a optional message if you like. Click the INVITE button to send your sharing request.

Things you can do after you register your kit (and before you have results)

search matches Show: both sides Sort: relationship 25 per page 1 - 25 of 996

Female	You	United States H3c	UPDATE YOUR PROFILE
Female	2nd Cousin 4.03% shared, 7 segments	United States Mobile, AL Jupiter, FL Lucedale, MS Auburn, AL Northern Europe Eubanks Pate High 2 more J1c8	Send an Introduction
Female	2nd Cousin 3.61% shared, 10 segments	United States South Carolina, Georgia, Alaba... Multiple regions King Jeffcoat Wilson 12 more H1a3 R1b1b2a1a2f*	Sharing Genomes Send a Message View Family Tree
Female	2nd to 3rd Cousin 2.34% shared, 8 segments	J1c5	Send an Introduction

Show Close Relatives

The first time you login and have DNA Relatives match results you will see this line "SHOW CLOSE RELATIVES"

This line is actually a button. You will need to click it and agree to see close relatives—if you don't, anyone closer than a 2<sup>nd</sup> cousin will not show up on your list (including Aunt/Uncle/sibling/parent/child/1<sup>st</sup> cousins)

# The first login after results

DNA Relatives

Show: both sides ▾
Sort: relationship ▾
25 per page ▾
1 - 25 of 1223

	II Male	You	K2a3 R1b1b2a1a2f*	<a href="#">UPDATE YOUR PROFILE</a>
	Female	Daughter 50.0% shared, 25 segments	United States Multiple regions K1a4 R1b1b2a1a2f*	<a href="#">Owned Profile</a>
	Male	Grandson 32.1% shared, 29 segments	United States Sorge Sarradet Booksh 51 more K1a4 I1*	<a href="#">Owned Profile</a>
	Male	Grandson 27.7% shared, 37 segments	Multiple regions Hicks Norman Saxton 11 more K1a4 I1*	<a href="#">Owned Profile</a>
	Bei Male, b. 1945	2nd Cousin 5.76% shared, 8 segments	United States South Carolina, Georgia, Alaba... Multiple regions King Jeffcoat Wilson 12 more H1a3 R1b1b2a1a2f*	<a href="#">Sharing Genomes</a> <a href="#">Introduction Accepted</a> <a href="#">View Conversation</a> <a href="#">View Family Tree</a>
	P Male	3rd Cousin 1.99% shared, 9 segments	United States Northern Europe H1e1a R1a1a	<a href="#">Sharing Genomes</a> <a href="#">Introduction Accepted</a> <a href="#">View Conversation</a> <a href="#">View Family Tree</a>
	Sue Female	3rd Cousin, Once Removed 1.96% shared, 4 segments	H1a1	<a href="#">Sharing Genomes</a> <a href="#">Send a Message</a>
	Si Male	3rd Cousin, Once Removed 0.25% shared, 2 segments	United States Normandy, England, Ireland, Un... V1 R1b1b2a1a2f* Ballew	<a href="#">Sharing Genomes</a> <a href="#">Send a Message</a> <a href="#">View Family Tree</a>
	Be Female	3rd Cousin, Once Removed 0.13% shared, 1 segment	England->Wilkinson/Pulaski co... Cartar J1c1 Franklin Adams	<a href="#">Sharing Genomes</a> <a href="#">Send a Message</a> <a href="#">View Family Tree</a>

Select Family & Friends then DNA Relatives from the top menu to view your family matches

Select to change &/or sort match view

# DNA Relatives (match/cousins list)

	Bt Female	M	Grandmother 24.8% shared, 31 segments	Multiple regions   Byrd NC->SC->AL->MS Robinson SC->GA->MS   Howell NC->KY->MS   11 more K1a	Owned Profile
	Ed Female	M	2nd Cousin, Twice Removed 1.27% shared, 6 segments	United States   United States, England, Scotlan... Northern Europe   Byrd   Crawford   Rudd   3 more   K1a	Sharing Genomes Send a Message
	E J Male, b. 1945	P	2nd to 3rd Cousin 3.23% shared, 6 segments	United States   South Carolina, Georgia, Alaba... Multiple regions   King   Jeffcoat   Wilson   12 more H1a3   R1b1b2a1a2f*	Sharing Genomes Send a Message View Family Tree
	Male, b. 1969	M	2nd to 4th Cousin 1.00% shared, 5 segments	United Kingdom   United States   Northern Europe   H1c1 E1b1b1a2*	Introduction Sent View - Cancel
	Patric Male	P	3rd Cousin, Once Removed 1.61% shared, 5 segments	United States   Northern Europe   H1a1a   R1a1a Maternal Haplogroup: H1a1	Sharing Genomes Send a Message View Family Tree
	Su Female, b. 1945	P	3rd to 4th Cousin 1.08% shared, 3 segments	H1a1 Family Location: Normandy, England, Scotland, South Mississippi, N/S Carolina, Kansas City, MO	Sharing Genomes Send a Message
	Cl Male, b. 1945	M	3rd to 4th Cousin 0.74% shared, 3 segments	United States   Normandy, England, Scotland, S... Northern Europe   Craft   Floyd   Napier   Mauldin   H3 R1b1b2a1a	Sharing Genomes Send a Message
	Bowie Male	M	3rd to 4th Cousin 0.71% shared, 3 segments	Anderson Co., SC->Winston Co...   Dawkins   U4b1 E1b1b1a4	Sharing Genomes Send a Message View Family Tree
	M n Female, b. 1945	M/P	3rd to 4th Cousin 0.64% shared, 4 segments	United States   Omaha Nebraska, Ohio, Baltim...   T2b2	Public Match Send a Message
	Female	M	3rd to 4th Cousin 0.61% shared, 3 segments	United States   H17   R1b1b2a1a	Introduction Sent View - Cancel

Parent(s) testing adds a new column indicating matches as Paternal or Maternal

**More test participants = more data!**





**DNA Relatives**

Rate List Map

search matches

ZephyrZ  
Female

Male

Female

Female

arngrover

1

### Make Contact

Personalize your introduction message

In your invitation, include details from your relative's profile that help solve your family mystery. For example, if you share surnames, or have a lot of family from the same part of the world, mention it! With that knowledge, your relative is more likely to accept your invitation.

Hi,

Through our shared DNA, 23andMe has identified us as relatives. Our predicted relationship is 5th Cousin, with a likely range of 3rd to Distant Cousin. Would you like to explore our relationship?

200 / 1000

Share my name (Zephyr Z) and profile with this relative.

Share my name and profile and also extend an invitation to share genomes at [Basic Level](#).

SEND INTRODUCTION CANCEL

1 - 25 of 1087

UPDATE YOUR PROFILE

Send an Introduction

Public Match  
Send a Message

Send an Introduction

Send an Introduction

Send an Introduction

Public Match  
Send a Message

You can edit or customize your message here

Don't forget the basic sharing

Click to send a sharing request to anonymous matches

**Basic Genome Sharing: Without basic genome sharing the site is no more useful than posting a query online to a surname forum--but it costs a lot more!**

## Sharing Status:

You are not sharing with Charles'

[Invite Charles](#) to share genomes.

[Send a message](#)

Names that are not anonymous are public shares and appear as names or pseudonyms in your match list. To share, click their name to bring up their profile then click to invite as shown here.

**Connect with Family and Friends**

**Profiles to share**

<input type="checkbox"/> A	<input type="checkbox"/> B
<input type="checkbox"/> C	<input checked="" type="checkbox"/> If
<input type="checkbox"/> L	<input type="checkbox"/> S
<input checked="" type="checkbox"/> Z	

**Sharing Level**

Sharing, without health reports.  
 Sharing, with health reports.

[Customize Message](#)

**INVITE** **CANCEL**

# Sharing

na, Galeo, Ross, Tate, Wesley

Once you are sharing with a cousin from your match list....

1. At the top hover your mouse over **MY RESULTS** and select **ANCESTRY TOOLS**

2. Click **Family Inheritance: Advanced** in the left column

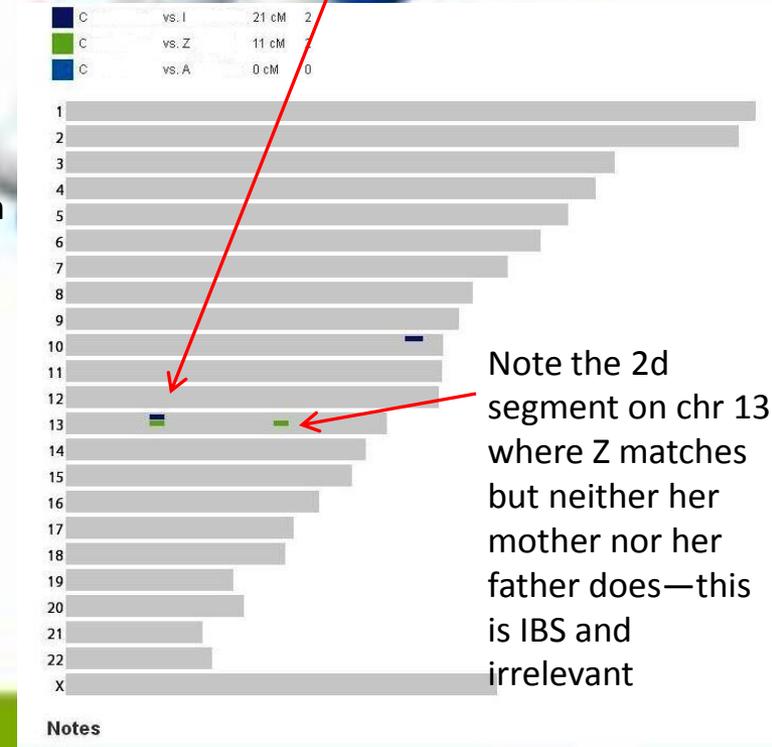
3. Enter the person sharing with you in the left box, your name should automatically appear in the box on the right

4. Click the blue **COMPARE** button

5. It takes a second to fully complete but a chart will come up outlining all of the chromosomes by number. On it you will see a highlight in blue--that is the location where you and that person share the same genetic data.

6. You can now hover your mouse pointer over the blue shared area and the statistics relevant to that share will appear on the screen above it. These are the numbers you record in your spreadsheet along with the ones from the DNA Relatives match list page you referred to in your message. That completes your entry on the spreadsheet for that person. If you communicate and they share a family tree with you and an email address or gedmatch # (more advanced tools at [gedmatch.com](http://gedmatch.com)) you can note those on your spreadsheet too. This keeps everything in one place so that when you add that 'magic' mutual cousin to the sheet and notice the numbers in the column for the chromosome segment are about the same, you will have all the info to verify it as a group match and contact the mutual cousins all right from your spreadsheet.

Note the group match on chromosome 13 where Z & I both match C, so C matches on Z's paternal side of her family tree.



## Family Inheritance: Advanced

To **verify** a group match..(this is the next step)

Once in a while you will see what LOOKS like a group match, but you must verify to ensure that it is indeed one. To do this you simply shuffle the names from the left side to the right so that you make sure you compare everyone in the group to everyone else and they all still match one another in the same area.

Why you might ask? Because chromosomes come in pairs, so you must make sure everyone who appears to be a group match are in fact matching on the same 'side' of the chromosome pair. If everyone matches everyone else no matter which side their name is on, you have a group match!

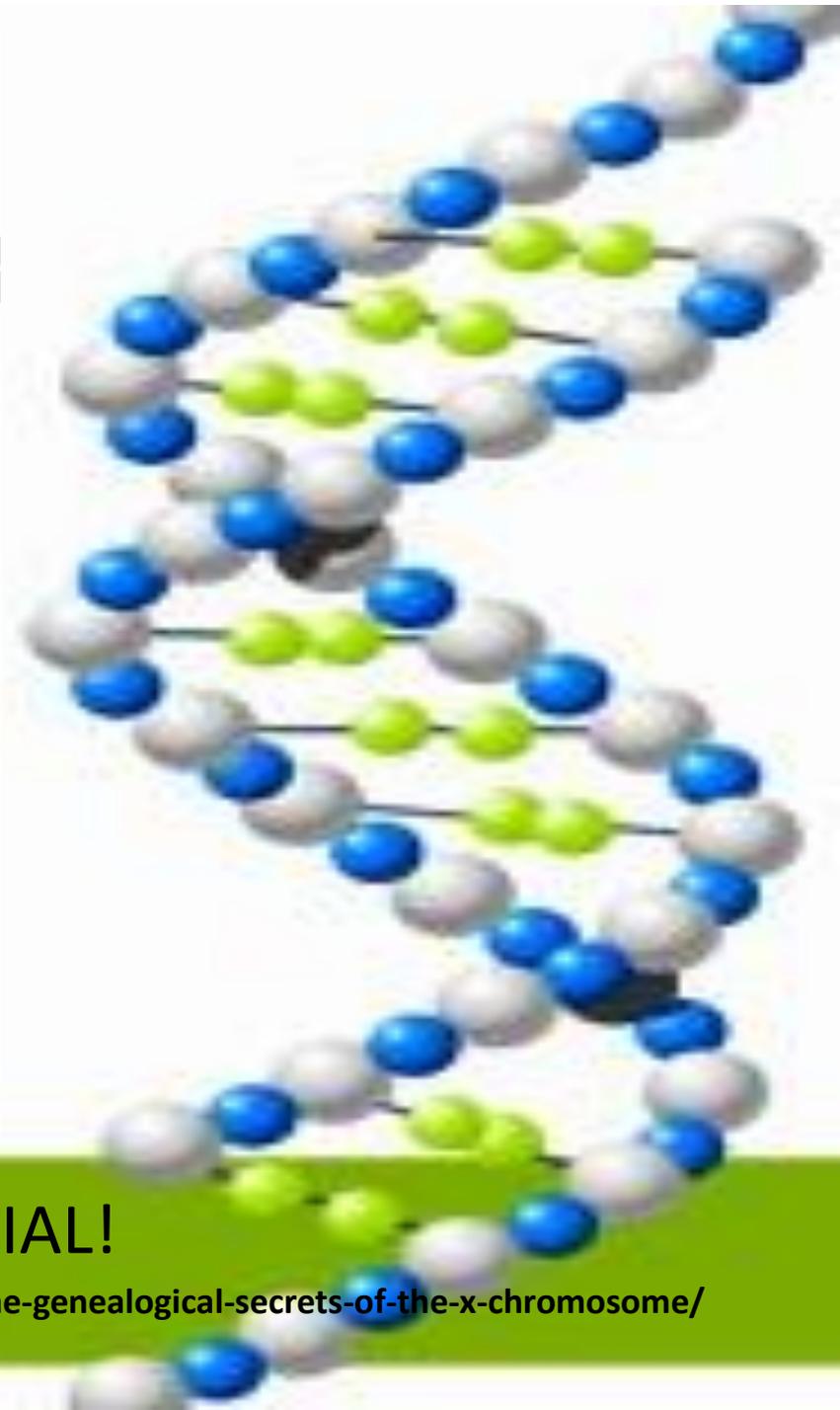
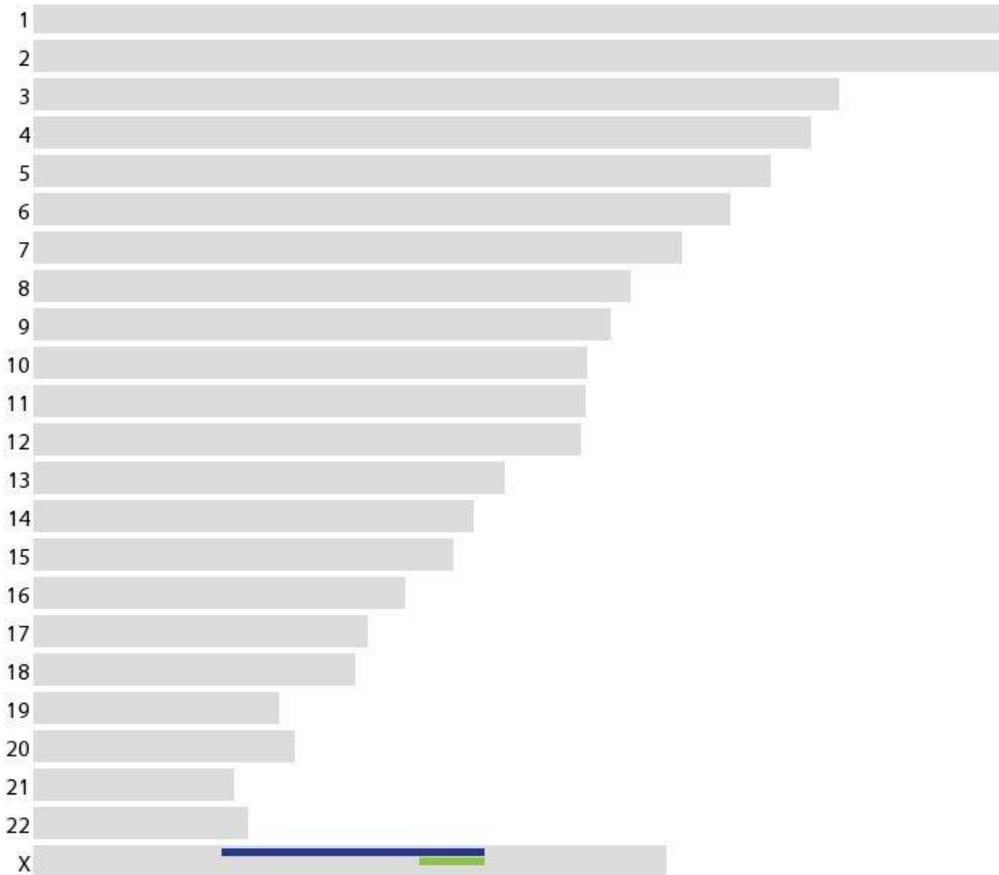
Once ANY two group members are able to find and confirm their match in their family trees, then everyone in the group will know that they too are related somewhere along this same ancestral branch! That is the beauty of sharing. 😊



## **Group match-- yes or no?!**

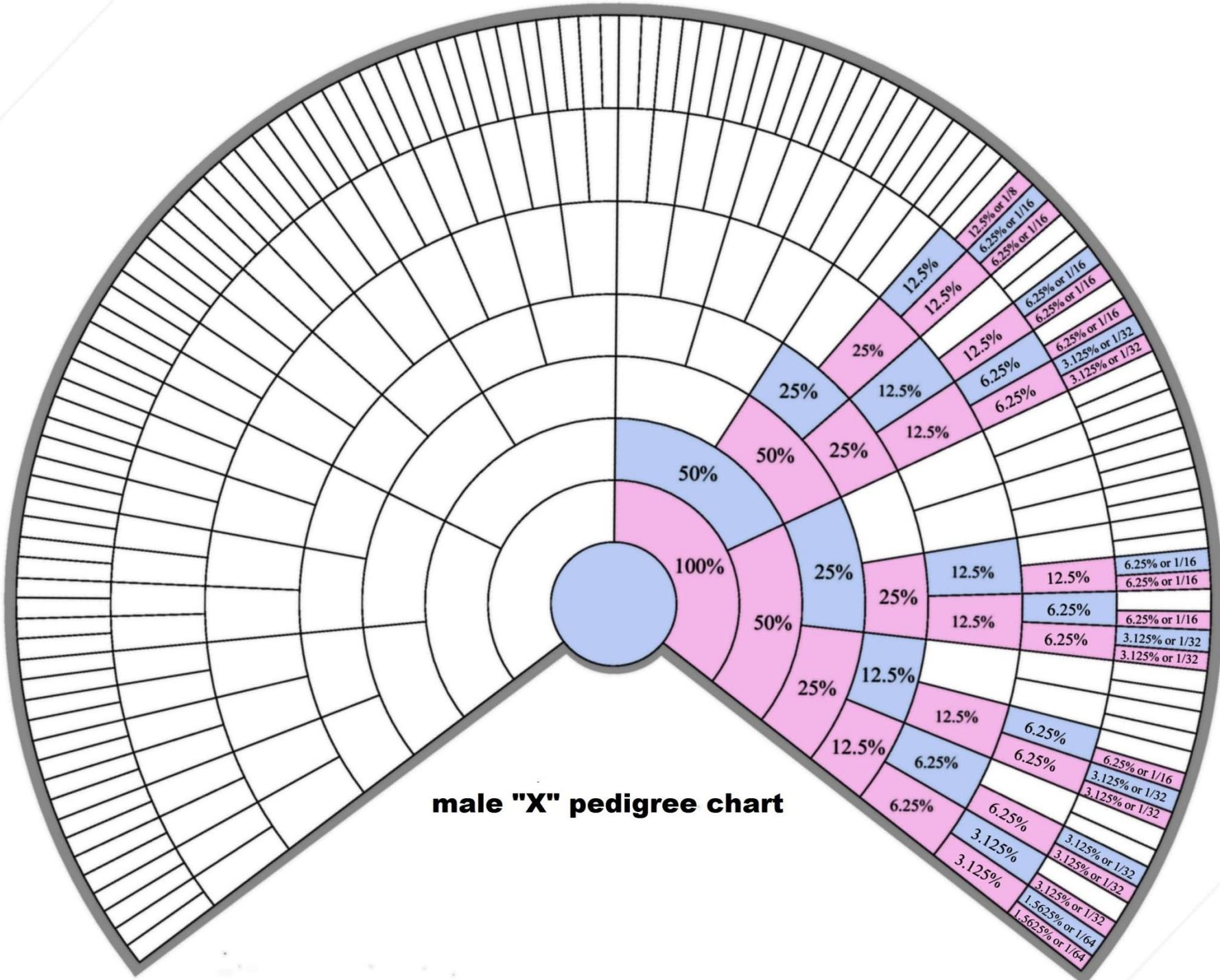
This is where the spreadsheet can help...as you add new shares you can 'eyeball' potential group matches to check in the Inheritance Advanced tool

■	Barbara	vs. A Franklin	41 cM
■	Barbara	vs. Bowie Dawkins	13 cM
■	Barbara	vs. Brad	0 cM

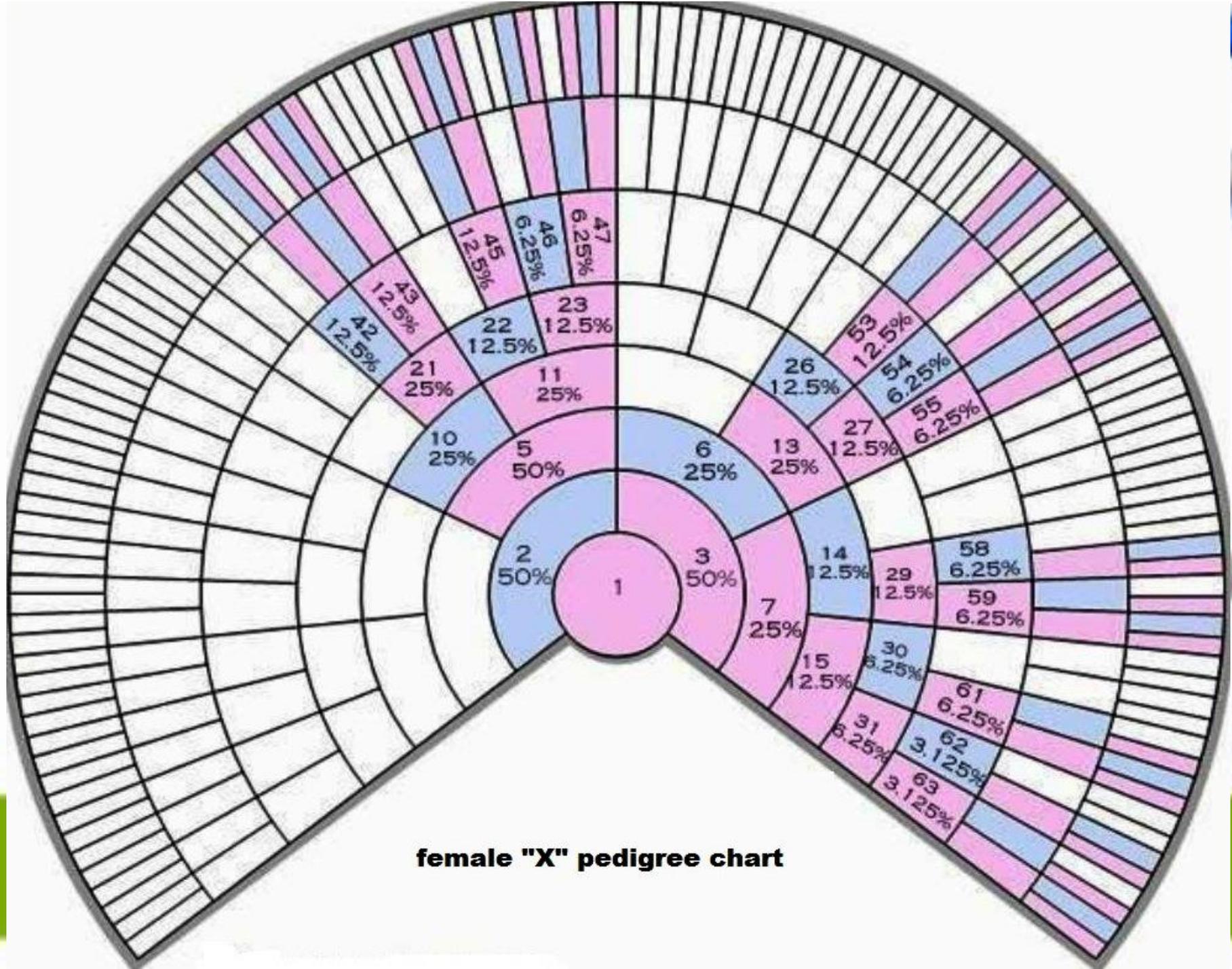


X chromosome matches are SPECIAL!

<http://www.thegeneticgenealogist.com/2008/12/21/unlocking-the-genealogical-secrets-of-the-x-chromosome/>



**male "X" pedigree chart**



female "X" pedigree chart

Screenshot from a mutual cousin's match list:



William G

Male

3rd to 6th Cousin  
0.40% shared, 1 segment

K1c2 R1b1b2a1a2f\*

From your DNA Relatives match list search on what you know:

DNA Relatives

Rate

List

Map

R1b1b2a1a2f\*

Show: both sides

Sort: relationship

25 per page

1 - 25 of 94 (1013 total)

In every case but one, I have been able to find the anonymous match & send a sharing request. (In that 1 instance there were two possibilities, so I sent both requests-problem solved!) 😊



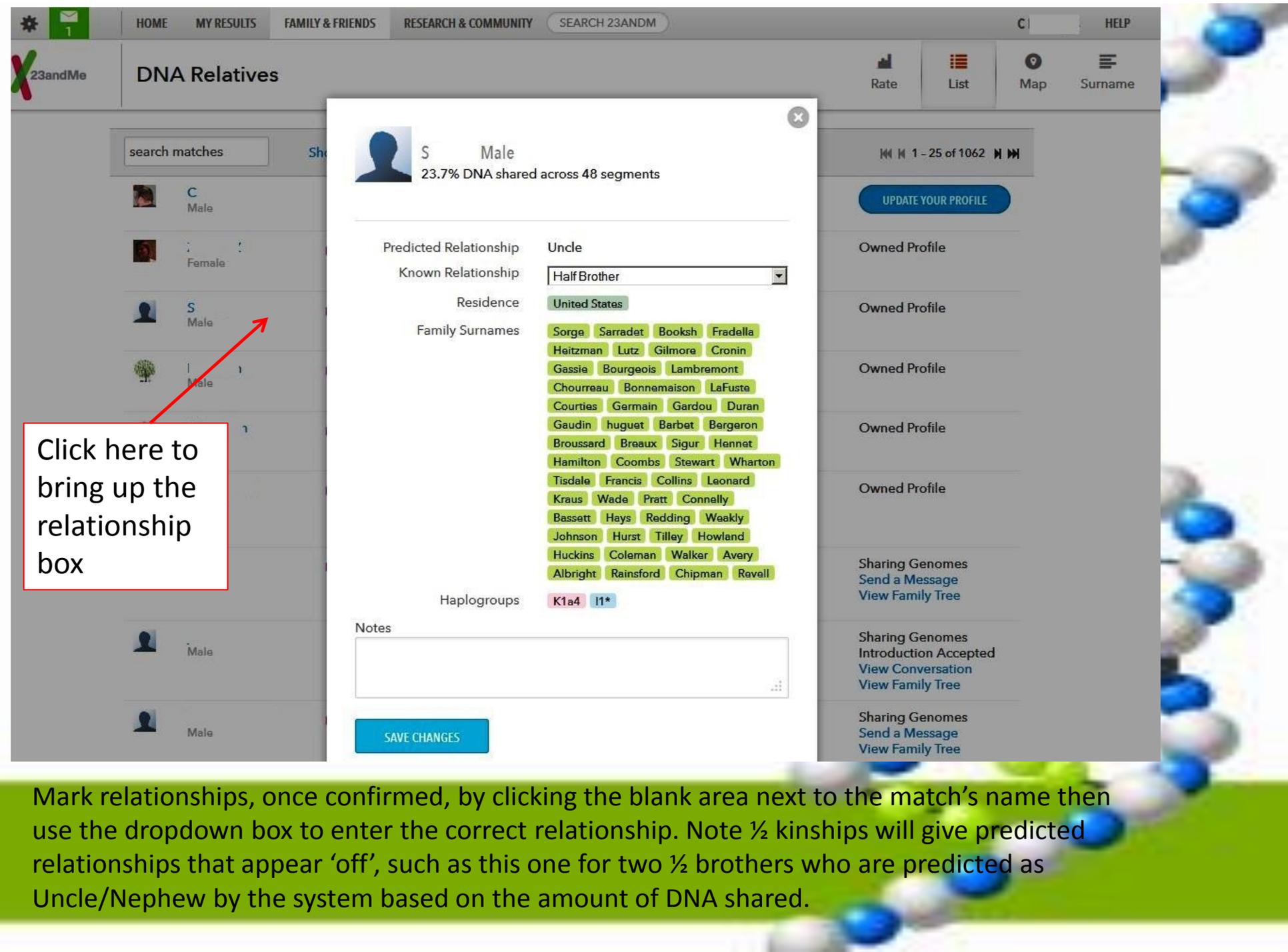
Male

3rd to 6th Cousin  
0.40% shared, 1 segment

K1c2 R1b1b2a1a2f\*

Send an Introduction

Technique for differentiating anonymous cousins in the DNA Relatives match list



Click here to bring up the relationship box

 **S Male**  
23.7% DNA shared across 48 segments

---

Predicted Relationship: **Uncle**

Known Relationship:

Residence: **United States**

Family Surnames: **Sorge Sarradet Booksh Fradella Heitzman Lutz Gilmore Cronin Gassie Bourgeois Lambremont Chourreau Bonnemaïson LaFuste Courties Germain Gardou Duran Gaudin huguet Barbet Bergeron Broussard Breaux Sigur Hennet Hamilton Coombs Stewart Wharton Tisdale Francis Collins Leonard Kraus Wade Pratt Connelly Bassett Hays Redding Waakly Johnson Hurst Tilley Howland Huckins Coleman Walker Avery Albright Rainsford Chipman Revell**

Haplogroups: **K1a4 I1\***

Notes:

**SAVE CHANGES**

Mark relationships, once confirmed, by clicking the blank area next to the match's name then use the dropdown box to enter the correct relationship. Note ½ kinships will give predicted relationships that appear 'off', such as this one for two ½ brothers who are predicted as Uncle/Nephew by the system based on the amount of DNA shared.

Click MY RESULTS then ANCESTRY COMPOSITION to view

23andMe Ancestry Composition

Map View Global Resolution

23andMe Ancestry Composition

Chromosome View Global Resolution

Use the drop down box to change from the default map view to the more relevant chromosome view

# Ancestry Composition



You can log a ticket if you have an issue and need assistance or tech support.

At top right click HELP then FAQ. Enter a question in the box and click search..when you do that at the bottom of the results list (which may answer your question) is a link --

Didn't find what you were looking for?

[Fill out a request form](#)

Use that to send an email to tech support about your question/problem.

**Need help?**



my husband did this and you will be amazed where your blood line comes from. His was traced back 800 years.. He is kin to Benjamin Franklin on his mom and dad side and Thomas Jefferson on his dad side.. He is kin to some queen of France from the 1400s.. And lots of celebrities. Really amazing...

Online trees are NOT the know all end all. Without proper documentation they are best used only as a suggestion for your own research to document your own family tree, or a means of contacting the owner/contributor to share documentation of the contents.

I can post an ancestry tree showing I'm Elvis' daughter, but that doesn't make it true! 😊

You can prove to be a distant cousin to a celebrity who has tested at 23andme (the original Hollywood "spit party"). Click MY RESULTS then click the header ANCESTRY OVERVIEW and scroll down to see a famous relative or two! 😊

**Things your DNA test can't tell you...  
at least not without a LOT of work!!**

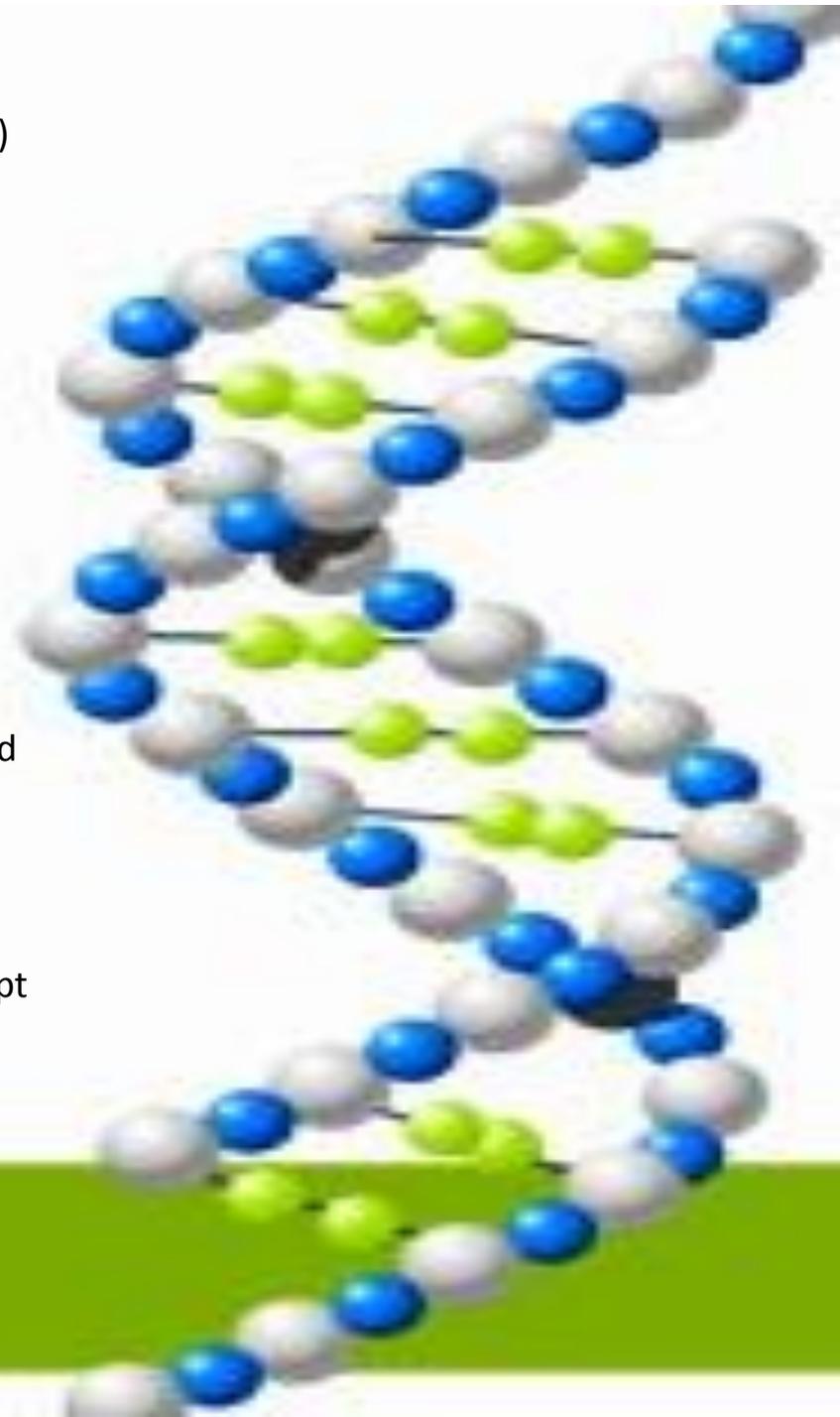
Famous Relative! More

**Meryl Streep** is distantly related to you on your mother's side.



- <http://trackingyourroots.com/DNA> (free spreadsheet, helps, tips and links, this ‘how-to’ file in pdf and power point formats—updated as time permits and site changes)
- International Society of Genetic Genealogy (ISOGG)  
<http://www.isogg.org/>
- Roberta Estes’ Genetic Genealogy blog <http://dna-explained.com/>
- CeCe Moore’s “Your Genetic Genealogist” blog  
<http://www.yourgeneticgenealogist.com/>
- Sorenson Molecular Genealogy Foundation  
(info and how-tos for genetic genealogy under Molecular Genealogy tab at upper right—other good, more advanced resources in their databases.)  
<http://www.smgf.org/>
- Gedmatch: <http://gedmatch.com> (advanced tools, good for comparing results with broader audience as they accept raw data uploads from 23andme, FTDNA and ancestry)
- Order a kit from 23andme  
<http://refer.23andme.com/a/clk/4jHdx>

## Additional resources



Now that you understand the basics of how to use 23andMe..what's next?

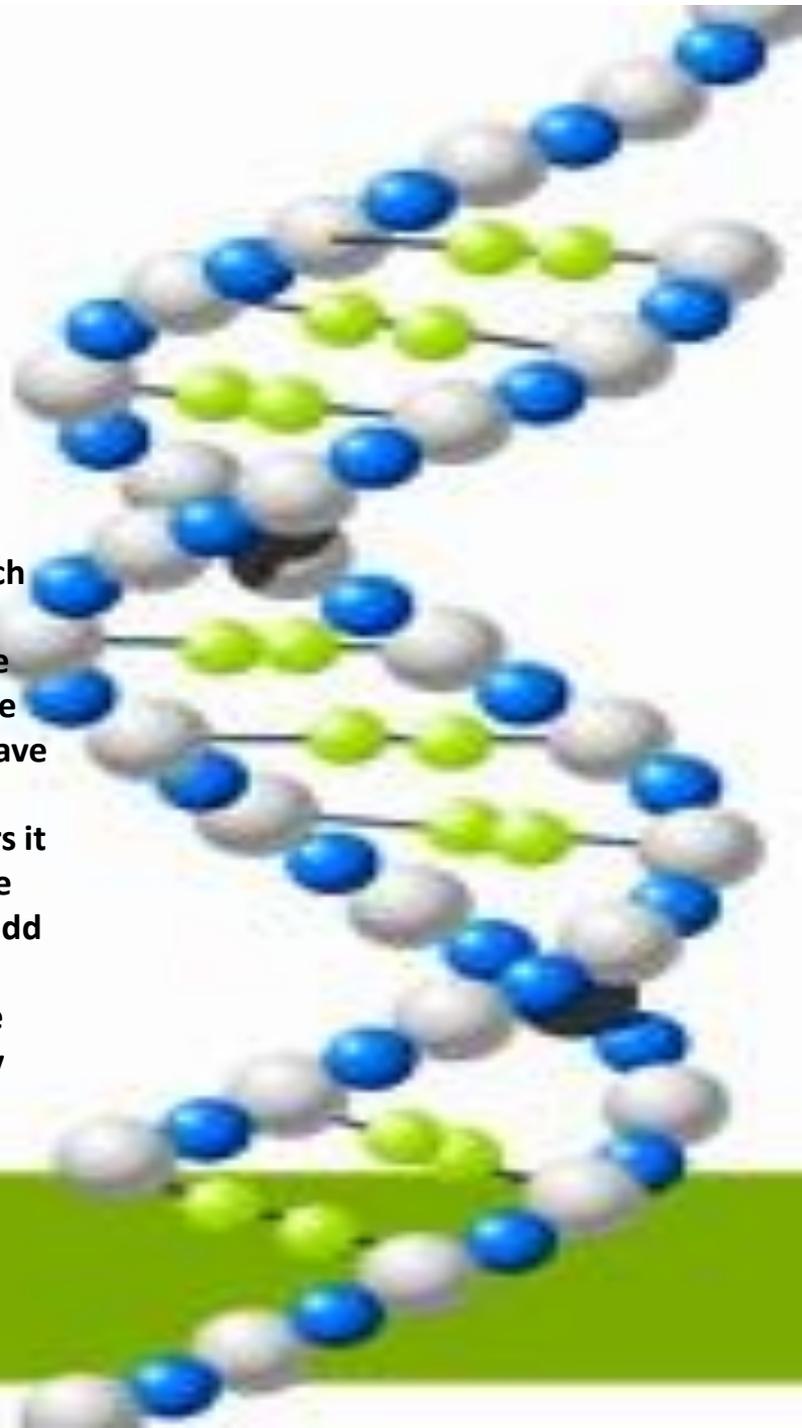
Organizing your match data and seeking out 'group matches'. This is the 'key' to genetic genealogy.

You can download a free blank spreadsheet from my website here-

<http://trackingyourroots.com/DNA>

**The sheet is blank, fill it in with the match data you find for each match you share with. Be sure to place the data in the correct chromosome segment—some matches will be entered more than once, if you share multiple segments. You may want to add a column at the end to paste the link to your 23andMe message thread for each match cousin—I have found this to be TREMENDOUSLY helpful as there is no search functionality within the 23andMe message system and after two years it is too cumbersome to dig through thousands of messages one by one seeking a specific one! ☹ Eventually, you will probably also want to add a column at the very beginning to note P/M as even with no parents testing, you will eventually, after accumulating enough match data be able to delineate your matches to one side or the other of your family tree.**

# What Next?



Completing the spreadsheet and adding to it over time will allow you to easily note patterns and group matches.

So, basically, using the Family Inheritance Advanced tool to complete the spreadsheet, add each new match. As I do this, I eyeball to see if their segment area (I leave off all the zeros in the segment number to make it easier on my old eyes), looks like I already have folks matching me in that area. If I seen any that look like they may, then I run the cross analysis to see if the new share matches the person(s) who already share with me in that area. If they do, I know they are part of a group match. A group match being a set of cousins who all share in the same/overlapping segment area of a specific chromosome, proving they all share a common ancestor somewhere in their family tree who contributed this DNA segment that was passed down to each of them. (see next slide)



Access the tool by clicking MY RESULTS then ANESTRY TOOLS & Family Inheritance Advanced.

Compare your DNA, bit by bit, to see what segments you share with close and distant family.

Use this tool to discover how a DNA Relative may be related to your family. Select a DNA Relative that you are sharing with and up to 5 profiles for comparison. Shared IBD segments will be painted onto a map of your 23 chromosomes.

Compare:

I

COMPARE RESET

With:

Mel

Sue

William

Comparison	Half IBD	# segments
I vs. Mel	33 cM	2
I vs. Sue	146 cM	4
I vs. William	45 cM	1



To confirm as a group match - No matter who is on the left side being compared to those on the right ALL still overlap/match in this segment area.

You can have what looks like a group match, but not all may match everyone else in the group on your segment of interest—this indicates a difference in matching to the chromosome in the pair received from each parent—one maternal and one paternal, meaning some are matching from your mother and the other(s) from your father. Figuring out which is which is part of what you are working to do by defining group matches. 😊

P/M	Match Name	Chromosome #	Chromosome Segment	cM	SNPS	(cousinship)	% shared	# segments	Notes/including group match ~ancestry composition
P	Misty	19	1-7	20.3	1187	3d-distant	0.27	1	b.1961, r'cd info on her 4 grandparents-started paper tree for her
P	Sue	19	14-51	48.7	5755	2d cousin, once removed	1.96	4	MRCA: John A Franklin & Mahaley Celia Findley
P	Tom	19	1-7	19.7	1255	2nd cousin	2.78	9	MRCA: John A Franklin & Mahaley Celia Findley
	Nan	IBS	34-38	5.6	741	3d-6th	0.26	2	
P	Mel	19	14-35	23.1	2914	3d cousin		2	MRCA: Willson Franklin & Tempy Straughn
P	charles	19	1-7	24.8	1477	2d cousin, once removed	1.86	9	MRCA: John A Franklin & Mahaley Celia Findley
P	Pam	19	48-52	11	980	3d-6th	0.24	2	*msgd req tree
P	ken	19	50-52	8.2	708	4th cousins	0.48	4	MRCA: Thomas & Nancy Franklin Pulaski Co GA/Covington Co AL
p	Ray	19	45-53	18	1634	3d-distant	0.24	1	*sent 2d msg req tree; incl link to thosfranklin web pg and info on his being either a descendant or from one of their ancestors
M	Cecil	19	18-33	12	1774	3d cousin, once removed	0.84	4	MRCA: Enoch Sprewell Jones & Susan Abney
M	John	19	33-59	50.9	4907	half brother	27.1	54	
p	William	19	14-51	45	5546	3d-6th	0.6	1	MRCA: Thomas & Nancy Franklin Pulaski Co GA/Covington Co AL; William lives in Keller, TX in the Dallas area.

For example. Say I just added Mel as a new entry to my spreadsheet. The first thing I notice when I enter her segment 14-35 on this chromosome (chr) is that she may match Sue and William on that area or she may match John, as they all share in that same area with me. So I go back to my Family Inheritance Advanced tool, and compare Mel to each of Sue, John and William and I find that viola! She matches Sue and William and doesn't match John. Well, that makes sense because John is already confirmed to my maternal side of my tree, while Sue & William are on the paternal side (note pink M or blue P in first column). Each of those 'sides' represents one of the two chromosome 19s inherited-one from the father, one from the mother. So now I highlight Melba in blue because I know she is part of that group match as she matches us there and also matches Sue and William there. I then talk to Mel and find she too descends from Willson & Tempy and add that to my notes and bold her to indicate a known connection.

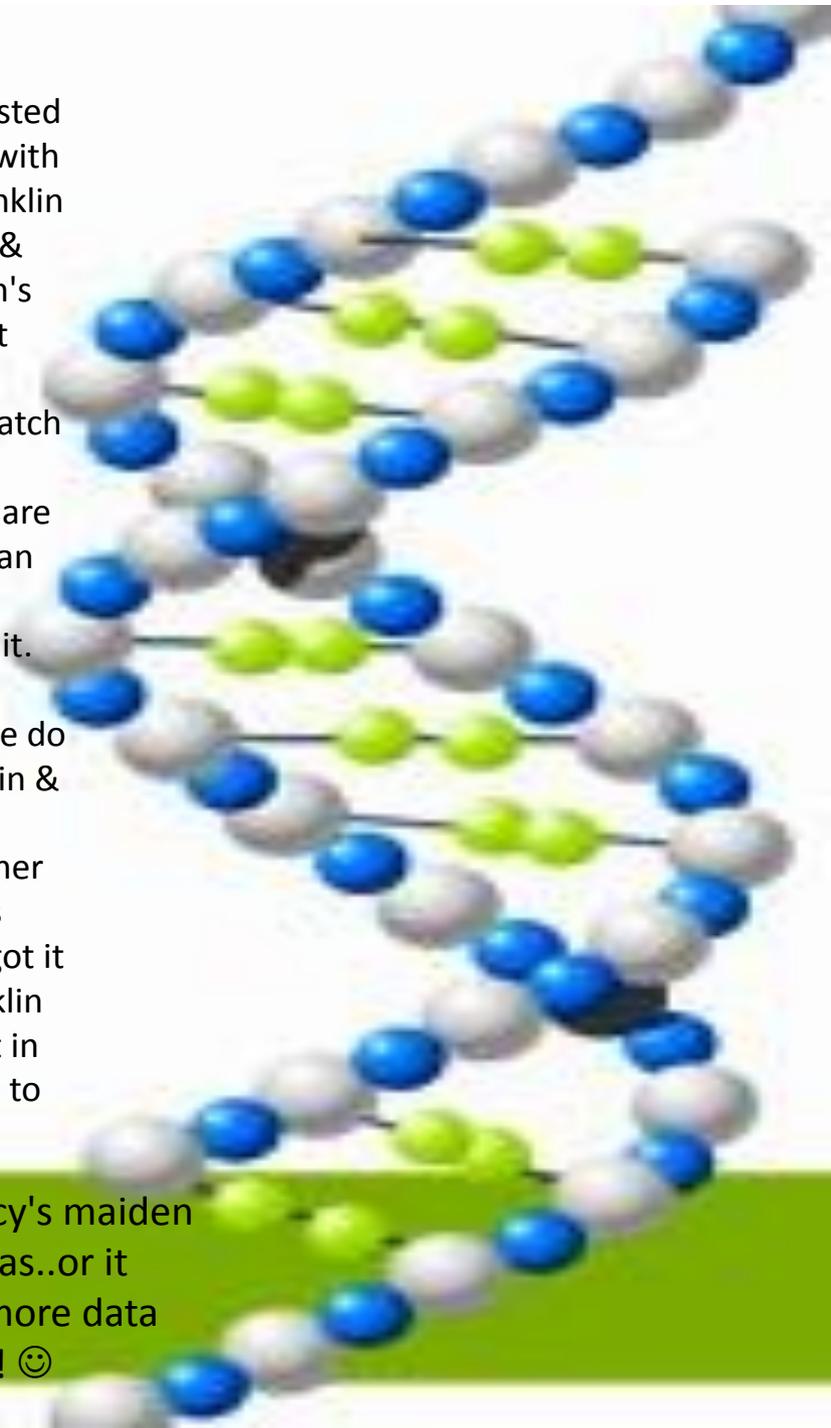
Now I know they are a group match--all sharing this same segment of chromosome 19. So I now KNOW that they also share a common ancestor that passed this segment down to each of them over time and generations.

The chr 19 section of my spreadsheet that corresponds to the previous image.

But what else can I tell? Looking at the Notes column where I have listed the Most Recent Common Ancestor (MRCA) that each match shares with me when known or confirmed, I see that Mel and I have Willson Franklin & Tempy Straughn as our MRCA, while William Fant & I have Thomas & Nancy Franklin as our MRCA. So, since Thomas and Nancy are Willson's parents, this tells me that Willson Franklin carried this segment intact from his parents and I can now rule out Tempy Straughn as having contributed any of this particular segment, because for Thomas to match here as well as Wilson, Tempy can't be the donor of this DNA unless somewhere down the line we were to determine Tempy and Willson are kin...but that would be an even more advanced session. LOL So, we can pretty safely say that this segment came from Willson Franklin intact from Thomas or Nancy (as only one of his parents will have provided it.

Next we see that Sue and I share the same full segment amount as we do with William but her MRCA to us is much more recent--John A Franklin & wife Celia Findley. So this tell us that Mel's segment has a recombination, or break point at the 35 range and so from 35-51 on her DNA came from another ancestral source. What else we now know is that this entire segment 14-51 was carried by John A. Franklin, who got it from his father Willson Franklin who got it from Thomas/Nancy Franklin intact. It's a nice segment at ~5600SNPs in length. And I could color it in my chromosome painting as a segment of my DNA belonging directly to John A Franklin and Willson Franklin.

This particular segment COULD help me eventually find Nancy's maiden name if it turns out it came from her rather than from Thomas..or it could have me find Thomas's parents if it came from him....more data collection is all we need...and that means time and patience! 😊

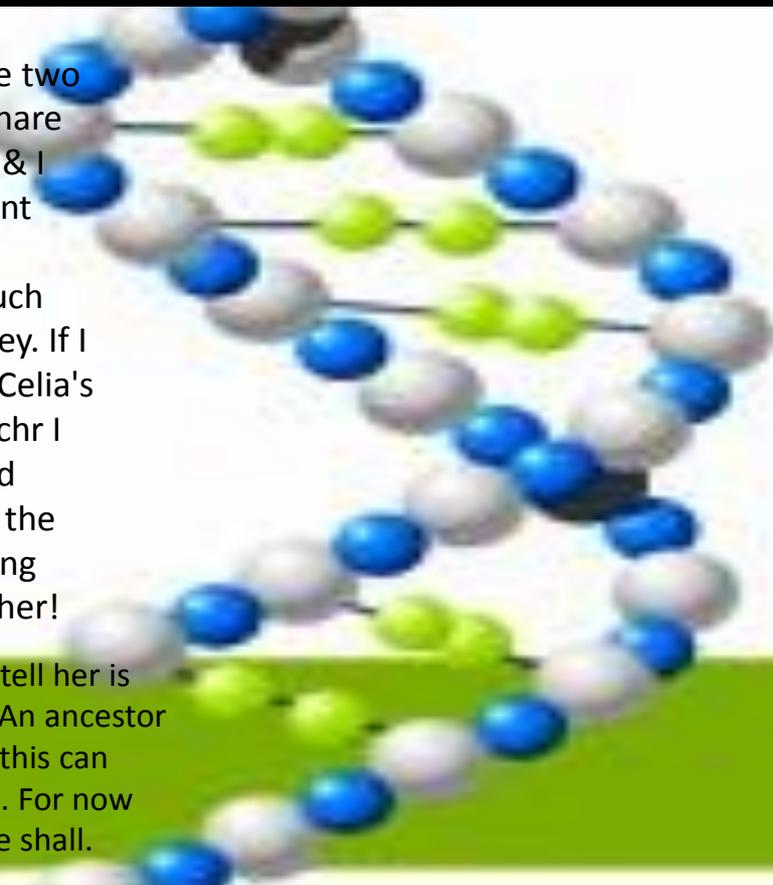


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The next 'group match' I'll talk about is the yellow group. Here we have two second cousins sharing a segment with us as a group match and one share by Misty here that we as yet don't know how she ties in. Charles, Tom & I share John A Franklin & Mahaley Celia Findley as MRCA for this segment group match.

So what I know here is that this segment, which we all share pretty much the same (1-7) came from either John A Franklin or his wife Celia Findley. If I were to have a known Findley cousin also match me here who shared Celia's parents I would know this segment came from her (which on another chr I have been able to determine that). On the flip side, if a cousin who had Willson Franklin as our MRCA shared with me here then I would know the segment was part of John A Franklin's DNA makeup. Again, more waiting and patience for what I call 'that magic match' that will delineate it further!

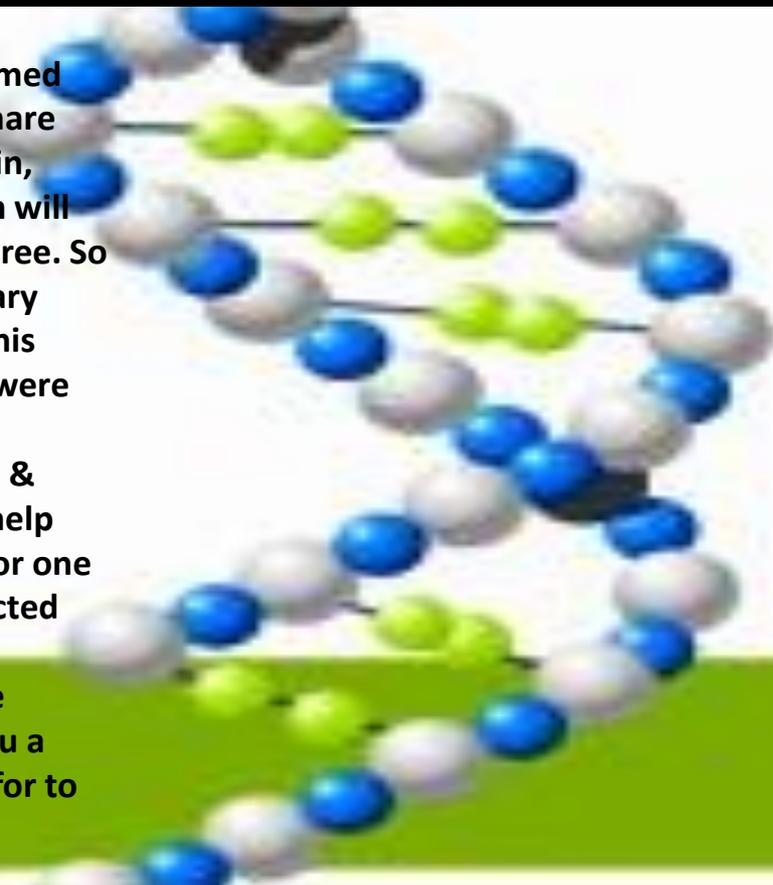
But what about Misty who we don't know her connection. Well, what I can tell her is that she is either **1.** a descendant of John and Celia (Findley) Franklin, or **2.** An ancestor of one of them is somewhere in her tree as her ancestor too! This is where this can become VERY helpful as you'll see when I talk about the green group match. For now though I know little about Misty's ancestry and neither does she, so wait we shall.



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In the green match group you see Ken is bold, because we have confirmed our MRCA as Thomas & Nancy Franklin. But we have two others we share with here Pam and Ray. So all of us share a common ancestor and again, because I know my MRCA with Ken is Thomas & Nancy the connection will be somewhere either downstream or upstream of them in my family tree. So say Pam and Ray are able to confirm that they connect at John and Mary Bass who lived in Pulaski county, GA in the early 1800s. (And I made this supposition easy just for the sake of things because Thomas & Nancy were living there at that time! LOL)

Well now I KNOW somehow my Thomas & Nancy connect to this John & Mary Bass and I can go looking for records for John & Mary that may help connect them to Thomas & Nancy...maybe they are parents of Nancy or one is a sibling of Nancy or Thomas? This is EXACTLY how Dad and I connected Willson to Thomas Franklin..DNA gave us a direction and digging in courthouse records we found the link. So when you don't know where someone came from (we were stuck in AL at the time) this can give you a location (Pulaski county, GA) or a name (John & Mary Bass) to search for to find documentary evidence to back up the DNA. YAY!



If my ancestors hadn't lived the life they lived, doing what they did, I wouldn't be here--or at the very least I wouldn't be who I am and I'm okay with that! 😊

