

# I received my DNA results!


Now What Do I Do With My Thousands of Matches?

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JGSSN  
March 19, 2023


## Agenda

- DNA and DNA testing
- A little bit of science & history
- DNA test results
- Selecting your “best matches”
- Tips for contacting your “best matches”

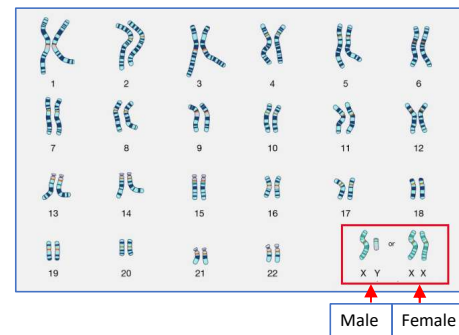
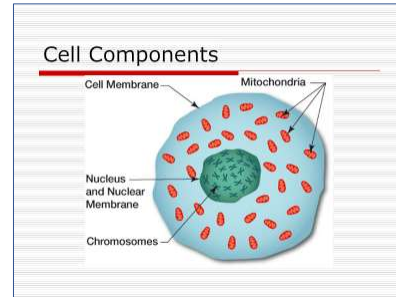


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# What is DNA?



- DNA is the molecule inside cells that contains genetic information.
- DNA molecules are passed from one generation to the next.
- Each cell contains 23 pairs of chromosomes (23 from Mom + 23 from Dad).



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# Why should you get a DNA test?

- Ethnicity
- DNA matches



57% Scandinavian

22% Native American

14% Italian

7% Irish, Scottish & Welsh

26% Native American

23% British

10% Italian

8% African

23% Asian

10% Other

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## Which companies do DNA testing?

Company	Test Type	Comments
AncestryDNA	Saliva	More testers than all other companies
23andMe	Saliva	Can also provide traits and genetic health risks
MyHeritage	Swab	Tools to analyze DNA matches, health tests + lots of photo tools
FamilyTree DNA	Swab	Proved atDNA, Y-DNA, and mtDNA tests <a href="#">Will send kit to funeral home.</a> *
Living DNA	Swab	Specializes in British & Irish ancestry



\* <https://www.yourdnaguide.com/ydgblog/dna-testing-deceased-dying#:~:text=DNA%20testing%20for%20a%20relative,is%20recently%20deceased%20is%20possible>

## How many DNA tests has each company done?



Source: [https://isogg.org/wiki/Autosomal\\_DNA\\_testing\\_comparison\\_chart](https://isogg.org/wiki/Autosomal_DNA_testing_comparison_chart)

Which companies should I test with?



And / or



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Downloading is easy (and free)  
Example: download DNA file from Ancestry

- 1 DNA → Settings
- 2 Consent and Continue
- 3 Make sure you've linked your DNA to your tree
- 4 Download

**Download DNA test**

You can download a .zip file of your DNA Data. Downloaded data is subject to [AncestryDNA Terms and Conditions](#) and [AncestryDNA Privacy Statement](#). [What is DNA Data?](#)

I understand that after I download my DNA Data, it will no longer be protected by Ancestry and I will assume all risk of storing, securing, and protecting this information.

**Continue** Cancel

**Test details**

These are public information and your test

**Link DNA to tree**

You can link your DNA test to your family tree.

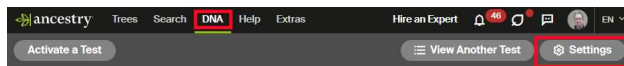
DNA link Linked to Benjamin Fredric Kempner in Kempner-Traunstein Family Tree

**Download or delete**

You can download your DNA data or permanently delete your test.

**Download DNA data**

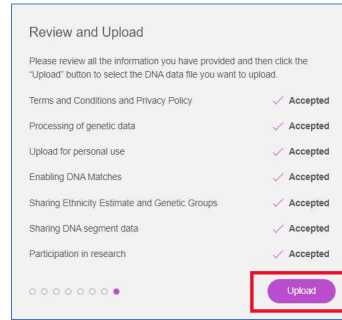
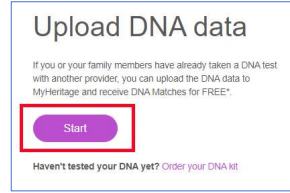
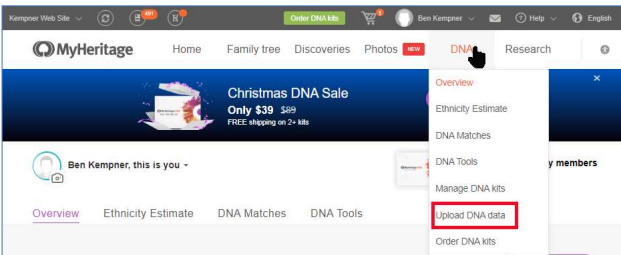
Delete DNA test



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Uploading is easy (and free)  
Example: upload DNA file to MyHeritage

- 1 DNA → Upload DNA data
- 2 Make consent choices
- 3 Select the DNA file that you downloaded
- 4 Upload



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Q: What do you get for free?

A: You will see all your DNA matches for people who tested or uploaded their DNA to MyHeritage (or FTDNA or Living DNA or GEDmatch, etc.)

If you want to use the DNA analysis tools such as a chromosome browser that the company has, you pay:

- MyHeritage = \$29
- Family Tree DNA (FTDNA) = \$19
- Living DNA – free (limited tools)
- GEDmatch = free, advanced tools = \$10/month



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Wow – so many matches!

My DNA matches	
Ancestry	157,645
23andMe	1,502 (max that they show)
MyHeritage	21,274
Family Tree DNA (FTDNA)	35,132
TOTAL	215,553



If you are genetically Jewish, you may ask these Four DNA Questions:

**אם יש לי מנג'ינג דזשינעטיק פון אים, האט ער און זיין שטיב?**

**אם ער האט אים, האט ער אים און זיין שטיב?**

**אם ער האט אים, האט ער אים און זיין שטיב און זיין שטיב?**

**אם ער האט אים, האט ער אים און זיין שטיב און זיין שטיב?**



Just a little bit more science...



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Where does your DNA come from?

Source of DNA

% of your DNA

What genetic genealogists call this

1. From your parents and their ancestors



Most shared DNA

Identical by Descent (IBD)

2. Many people from same population carry the same DNA segment(s) (endogamy)



Depends on your ethnicity or location

Identical by Population (IBP)

3. By chance



If it happens, it's with very short segments (< 5 cM)

Identical by Chance (IBC)

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## What is endogamy?

Practice of marrying within the same ethnic, cultural, social, religious or tribal group

Over several generations, descendants of this population begin to share many segments of DNA with each other

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## A few examples of endogamous groups

- Jews
- Polynesians
- Low German Mennonites
- Amish
- Acadians or Cajuns (French settlers in what is now Nova Scotia)
- French Canadians
- People from many Arabic countries
- Newfoundlanders
- People from many islands
- Members of the Church of Jesus Christ of Latter-day Saints

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How did Jewish endogamy occur?

A little bit of history...



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Ashkenazic, Sephardic and other Jews



Video source: <https://www.youtube.com/watch?v=M-TjGJ9bgKQ&t=125s>

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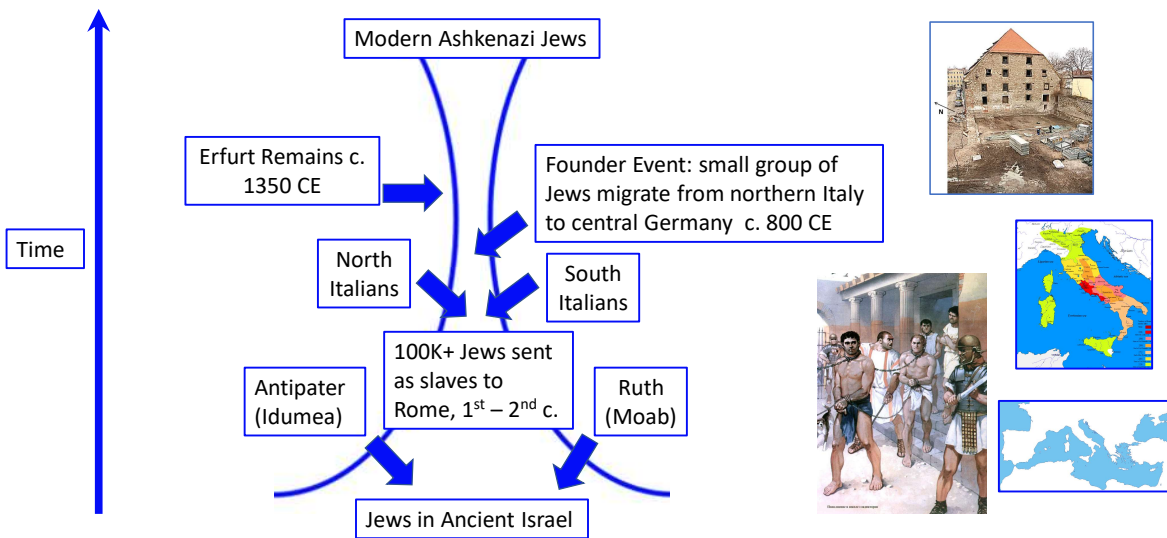
# Ancient DNA from medieval Germany tells the origin story of Ashkenazi Jews



- 2013 construction to build a parking lot in Erfurt, Germany uncovered a 14<sup>th</sup> century Jewish cemetery.
- Study published in 2022 led by scientists from Harvard and the Hebrew University of Jerusalem
- Results suggested that Ashkenazi Jews originated in this area sometime before the 14<sup>th</sup> century

Sources: <https://www.mpg.de/19586285/ancient-dna-from-medieval-germany-tells-the-origin-story-of-ashkenazi-jews>  
<https://www.smithsonianmag.com/history/how-construction-of-a-parking-lot-uncovered-new-insights-about-medieval-jews-180981222/>

# The migration from the Middle East through Italy to Germany

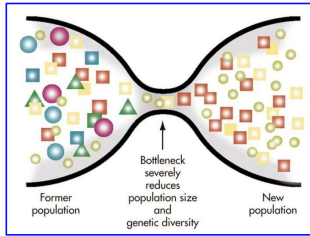


Source: <https://www.youtube.com/watch?v=89D2RDgzLLE&t=723s>

# Founder Event and Genetic Bottleneck reviewed

### Founder Event:

- Occurs when a small group becomes separated from the larger population.
- Over time, new subpopulation (i.e., Ashkenazis) will have the genes of the initial small group

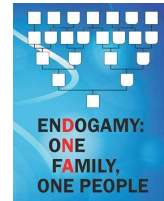


### Bottleneck:

- Occurs with a sharp reduction in the size of a population – i.e. the migration from Italy to Germany
- Bottlenecks reduce the variation in the gene pool & cause people to share the SAME SEGMENTS OF DNA – endogamy!

### Ashkenazi Jews have strong levels of endogamy due to:

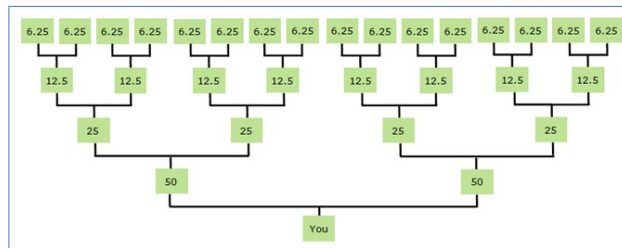
- Traditional marriage within the religion
- Isolation of the founder group & the severe genetic bottlenecks



## Back to our DNA tests...what do we get and what do we do with our thousands of matches?

Ethnicity Estimate

DNA Matches



At seven generations back, less than 1% of your DNA is likely to have come from any given ancestor

## Ethnicity Results



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## DNA Matches



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# What information do you see for each DNA Match?

Match Name: Robin

Estimated Relationship: 4th – 6th Cousin, 45 cM | < 1% shared DNA, Maternal side

Do they have a tree? Public linked tree, 1,359 People, Common ancestor

Tree choices:
 

- No tree
- Unlinked tree
- Private linked tree
- Public linked tree \*

Do you recognize them? Yes Learn more

Amount of Shared DNA: cM = centimorgans

Ancestry assigns matches as Maternal or Paternal. If they're not sure, it will say Parent 1, Parent 2, or Unassigned.

Ancestry checks your tree and your DNA match's tree and lets you know if you have a common ancestor

\* Connecting your DNA test to a public family tree can help you learn how you're related to DNA matches.

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# The Shared cM Project 4.0 tool v4

The Shared cM Project 4.0 tool v4 interface includes a filter to enter the total number of cM for a match, a 'How to read this chart' box explaining relationship, average, range, and cM to high (95% percentile) values, and a grid of relationship categories with their corresponding cM ranges.

Half GG-Aunt / Uncle	Great-Grandparent						Great-Great-Grandparent	GGG Aunt / Uncle	Other Relationships	
Half GG-Aunt / Uncle: 205-594	Great-Grandparent: 805-1495						Great-Great-Grandparent: 425-188-713	GGG Aunt / Uncle: 117-228		
Half 1C1R: 120-269	Half Great-Aunt / Uncle: 433-566	Grandparent: 1754-2482				Great-Aunt / Uncle: 335-487	1C1R: 221-471	2C1R: 0-244	3C1R: 0-188	6C: 0-71
Half 2C1R: 65-190	Half 1C1R: 71-274	Half Aunt / Uncle: 492-1315	Parent: 3485-3720	Aunt / Uncle: 1201-2292	1C1R: 420-900	2C1R: 142-303	3C1R: 0-152	4C1R: 0-126	6C1R: 0-56	
Half 3C: 48-168	Half 2C: 100-325	Half 1C: 156-979	Half Sibling: 1799-2426	Sibling: 1913-3488	SELF: 396-1397	1C: 866-229	2C: 41-254	3C: 0-139	4C: 0-117	6C2R: 0-45
Half 4C1R: 37-138	Half 3C1R: 66-190	Half 2C1R: 62-469	Half 1C1R: 492-1315	Niece / Nephew: 1749-2292	Child: 3487-3720	1C1R: 435-900	2C1R: 142-303	3C1R: 0-126	4C1R: 0-98	7C: 0-57
Half 2C2R: 27-78	Half 1C2R: 48-144	Half 1C2R: 16-269	Half Great-Aunt / Uncle: 433-566	Great-Niece / Nephew: 800-1487	Grandchild: 1754-2482	1C2R: 221-471	2C2R: 0-244	3C2R: 0-50	4C2R: 0-50	7C1R: 0-50
Half 3C2R: 15-60	Half 1C2R: 16-269	Half 1C2R: 16-269	Half GG-Niece / Nephew: 209-594	Great-Great-Niece / Nephew: 106-713	Great-Grandchild: 420-885-1486	1C2R: 117-228	2C2R: 0-104	3C2R: 0-60	4C2R: 0-60	8C: 0-42

Bookmark this page: <https://dnainter.com/tools/sharedcmv4>

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# Where do you insert the shared cM of your DNA match?

**DNA PAINTER** Tools Help Subscribe

**The Shared cM Project 4.0 tool v4**

Read more about the tool and this update

**March 2020**

Share T. Betinger  
www.betingerpedigree.com  
More about this project  
CC 4.0 Attribution License  
Interactive version v4 by Jonny Fern at DNA Painter  
Click here to contribute data to the shared cM project  
Last updated 29th March 2020

**Filter:** Enter the total number of cM for your match here.    
or enter %

**How to read this chart**

Relationship  
Average  
Range  
(low to high,  
95th percentile)

Then any relationships that fit will stand out below

Click on any relationship to view a histogram  
 Read more about cousin relationships

**Other versions**

New: with option to add a second amount  
Beta: with colored probabilities  
With estate boxes  
Shared cM 3.0 (2017) version

										Great-Great-Grandparent	GGG Aunt / Uncle					
										Great-Great-Grandparent	GGG Aunt / Uncle					
										Great-Great-Grandparent	GGG Aunt / Uncle					
Half GG-Aunt / Uncle 208 103 - 284										Great-Great-Grandparent 420 186 - 713	1C2R 117 25 - 238	2C2R 31 0 - 154	3C2R 11 0 - 71	Other Relationships		
	Half 1C2R 125 16 - 269	Half Great-Aunt / Uncle 431 184 - 668								Great-Aunt / Uncle 850 330 - 1467	1C1R 221 33 - 471	2C1R 71 0 - 244	3C1R 48 0 - 188	4C1R 36 0 - 117	5C1R 15 0 - 71	
	Half 2C1R 66 0 - 190	Half 1C1R 224 62 - 469	Half Aunt / Uncle 871 492 - 1315							Parent 3485 2376 - 3720	Aunt / Uncle 1741 1201 - 2282	1C1R 433 102 - 980	2C1R 122 14 - 353	3C1R 48 0 - 192	4C1R 28 0 - 126	5C1R 15 0 - 58
	Half 3C1R 37 0 - 139	Half 2C1R 66 0 - 190	Half 1C1R 224 62 - 469	Half 1C 120 10 - 325	Half Sibling 449 156 - 979	Sibling 2613 1160 - 2436	SELF	1C 866 396 - 1397	2C 229 41 - 592	3C 73 0 - 234	4C 36 0 - 117	5C 13 0 - 45	6C 5 0 - 17	7C 2 0 - 7	8C 1 0 - 3	
	Half 3C2R 27 0 - 78	Half 2C2R 48 0 - 144	Half 1C2R 125 16 - 269	Half Great-Niece / Nephew 431 184 - 668	Half Great-Niece / Nephew 871 492 - 1315	Niece / Nephew 1741 1201 - 2282	Child 3487 2376 - 3720	1C1R 433 102 - 980	2C1R 122 14 - 353	3C1R 48 0 - 192	4C1R 28 0 - 126	5C1R 15 0 - 58	6C1R 7 0 - 24	7C1R 3 0 - 10	8C1R 1 0 - 3	
	Half 3C3R 37 0 - 139	Half 2C3R 66 0 - 190	Half 1C3R 224 62 - 469	Half GG-Niece / Nephew 208 103 - 284	Half GG-Niece / Nephew 420 186 - 713	Great-Niece / Nephew 850 330 - 1467	Grandchild 1754 984 - 2462	1C2R 221 33 - 471	2C2R 71 0 - 244	3C2R 36 0 - 117	4C2R 13 0 - 45	5C2R 5 0 - 17	6C2R 2 0 - 7	7C2R 1 0 - 3	8C2R 1 0 - 3	
	Half 3C3R 37 0 - 139	Half 2C3R 66 0 - 190	Half 1C3R 224 62 - 469	Half GG-Niece / Nephew 208 103 - 284	Half GG-Niece / Nephew 420 186 - 713	Great-Niece / Nephew 850 330 - 1467	Grandchild 1754 984 - 2462	1C3R 117 25 - 238	2C3R 51 0 - 154	3C3R 27 0 - 96	4C3R 13 0 - 45	5C3R 5 0 - 17	6C3R 2 0 - 7	7C3R 1 0 - 3	8C3R 1 0 - 3	

Bookmark this page: <https://dnainter.com/tools/sharedcmv4>

# These are the possible relationships if you share 250 cM

										Great-Great-Grandparent	GGG Aunt / Uncle					
										Great-Great-Grandparent	GGG Aunt / Uncle					
										Great-Great-Grandparent	GGG Aunt / Uncle					
Half GG-Aunt / Uncle 208 103 - 284										Great-Great-Grandparent 420 186 - 713	1C2R 117 25 - 238	2C2R 31 0 - 154	3C2R 11 0 - 71	Other Relationships		
	Half 1C2R 125 16 - 269	Half Great-Aunt / Uncle 431 184 - 668								Great-Aunt / Uncle 850 330 - 1467	1C1R 221 33 - 471	2C1R 71 0 - 244	3C1R 48 0 - 188	4C1R 36 0 - 117	5C1R 15 0 - 71	
	Half 2C1R 66 0 - 190	Half 1C1R 224 62 - 469	Half Aunt / Uncle 871 492 - 1315							Parent 3485 2376 - 3720	Aunt / Uncle 1741 1201 - 2282	1C1R 433 102 - 980	2C1R 122 14 - 353	3C1R 48 0 - 192	4C1R 28 0 - 126	5C1R 15 0 - 58
	Half 3C1R 37 0 - 139	Half 2C1R 66 0 - 190	Half 1C1R 224 62 - 469	Half 1C 120 10 - 325	Half Sibling 449 156 - 979	Sibling 2613 1160 - 2436	SELF	1C 866 396 - 1397	2C 229 41 - 592	3C 73 0 - 234	4C 36 0 - 117	5C 13 0 - 45	6C 5 0 - 17	7C 2 0 - 7	8C 1 0 - 3	
	Half 3C2R 27 0 - 78	Half 2C2R 48 0 - 144	Half 1C2R 125 16 - 269	Half Great-Niece / Nephew 431 184 - 668	Half Great-Niece / Nephew 871 492 - 1315	Niece / Nephew 1741 1201 - 2282	Child 3487 2376 - 3720	1C1R 433 102 - 980	2C1R 122 14 - 353	3C1R 48 0 - 192	4C1R 28 0 - 126	5C1R 15 0 - 58	6C1R 7 0 - 24	7C1R 3 0 - 10	8C1R 1 0 - 3	
	Half 3C3R 37 0 - 139	Half 2C3R 66 0 - 190	Half 1C3R 224 62 - 469	Half GG-Niece / Nephew 208 103 - 284	Half GG-Niece / Nephew 420 186 - 713	Great-Niece / Nephew 850 330 - 1467	Grandchild 1754 984 - 2462	1C2R 221 33 - 471	2C2R 71 0 - 244	3C2R 36 0 - 117	4C2R 13 0 - 45	5C2R 5 0 - 17	6C2R 2 0 - 7	7C2R 1 0 - 3	8C2R 1 0 - 3	
	Half 3C3R 37 0 - 139	Half 2C3R 66 0 - 190	Half 1C3R 224 62 - 469	Half GG-Niece / Nephew 208 103 - 284	Half GG-Niece / Nephew 420 186 - 713	Great-Niece / Nephew 850 330 - 1467	Grandchild 1754 984 - 2462	1C3R 117 25 - 238	2C3R 51 0 - 154	3C3R 27 0 - 96	4C3R 13 0 - 45	5C3R 5 0 - 17	6C3R 2 0 - 7	7C3R 1 0 - 3	8C3R 1 0 - 3	

Bookmark this page: <https://dnainter.com/tools/sharedcmv4>

## Where do you find the average shared cM for a relationship

								Great-Great-Grandparent	GGG Unc
Half GG-Aunt / Uncle 208 103 – 284	Great-Grandparent 597 485 – 1485							Great-Great-Aunt / Uncle 420 186 – 713	103 25
Half 1C2R 125 16 – 269	Half Great-Aunt / Uncle 431 184 – 668	Grandparent 1754 984 – 2482					Great-Aunt / Uncle 850 330 – 1467	1C2R 221 33 – 471	2C 7 0 – 3
Half 2C1R 56 0 – 190	Half 1C1R 224 62 – 469	Half Aunt / Uncle 871 452 – 1315		Parent 3485 2376 – 3720		Aunt / Uncle 1741 1201 – 2282	1C1R 433 102 – 980	2C1R 122 14 – 353	3C 3 0 – 5
Half 3C 49 0 – 168	Half 2C 120 10 – 325	Half 1C 449 156 – 979	Half Sibling 1759 1160 – 2436	Sibling 2613 1613 – 3488	SELF	1C 866 396 – 1397	2C 229 41 – 592	3C 71 0 – 3	4C 2 0 – 2
Half 3C1R 37 0 – 139	Half 2C1R 69 0 – 190	Half 1C1R 224 62 – 469	Half Niece / Nephew 871 432 – 1315	Niece / Nephew 1740 1201 – 2282	Child 3487 2376 – 3720	1C1R 433 102 – 980	2C1R 122 14 – 353	3C 3 0 – 5	4C 2 0 – 2
Half 3C2R 27 0 – 78	Half 2C2R 46 0 – 144	Half 1C2R 125 16 – 269	Half Great-Niece / Nephew 431 184 – 668	Great-Niece / Nephew 850 330 – 1467	Grandchild 1754 984 – 2482	1C2R 221 33 – 471	2C2R 71 0 – 244	3C2R 36 0 – 166	4C2R 2 0 – 2
Half 3C3R	Half 2C3R	Half 1C3R 60 0 – 120	Half GG-Niece / Nephew 208 103 – 284	Great-Great- Niece / Nephew 420 186 – 713	Great-Grandchild 867 485 – 1485	1C3R 117 25 – 238	2C3R 51 0 – 154	3C3R 27 0 – 98	4C3R 3 0 – 6

Relationship  
Average cM  
Range cM

Bookmark this page: <https://dnainter.com/tools/sharedcmv4>

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## A new and free tool from MyHeritage...cM Explainer

The cM Explainer estimates familial relationships between DNA Matches with high accuracy.

- Free & doesn't require a MyHeritage account
- Predicts relationships based on centimorgan and ages (when known)
- Based on ages and relationships of millions of people in MyHeritage database



**MyHeritage** Home Family tree Discoveries Photos DNA NEW

### cM Explainer™ NEW

Enter the total amount of shared DNA with a DNA Match to view relationship predictions. For improved predictions, enter the ages as well.

Shared DNA (cM)

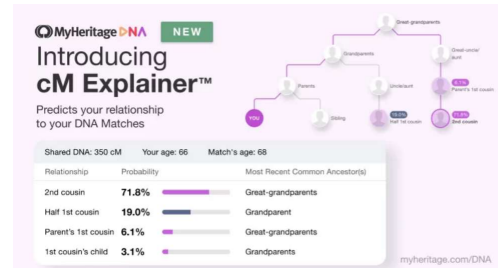
Your age

Match's age

Submit

Optional                      Optional

[www.MyHeritage.com/cm](http://www.MyHeritage.com/cm)



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## Ashkenazic Shared DNA Survey – August 2022 Update

- Jewish genealogist, Lara Diamond, is collecting data to reflect shared DNA from Jewish respondents.
- As of August 2022, she has collected 6455 data points.
- Jews (& partial Jews) with the same relationship (i.e., 1C, 2C, etc.) share more DNA than non-Jews = effects of endogamy



Example comparisons of average cM shared at different relationship levels

Relationship	Shared cM Project	Ashkenazic Shared DNA Survey
1C	866	922
2C	229	272
3C	73	113
4C	35	53
5C	25	48



Source: <https://larasgenealogy.blogspot.com/2022/08/ashkenazic-shared-dna-survey-august.html>

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Techniques for finding your best DNA matches




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## Let's look for cousins that meet these criteria

 Shared DNA  $\geq$  90 cM  
 Longest segment  $\geq$  20 cM  
 # of segments  $\leq$  11 (less is better)

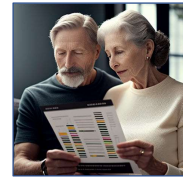
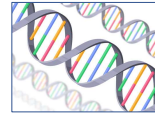
 Shared DNA  $\geq$  1.3% (97 cM)  
 Longest segment  $\geq$  20 cM  
 + 2 more segments  $\geq$  10 cM

 Shared DNA  $\geq$  100 cM  
 Longest segment  $\geq$  30 cM  
 One segment  $\geq$  15 cM  
 One segment  $\geq$  10 cM

 Shared DNA  $\geq$  100 cM  
 Longest segment  $\geq$  30 cM  
 One segment  $\geq$  15 cM  
 One segment  $\geq$  10 cM

OR

Any match that shares a longest segment of 40 cM or more – regardless of Total Shared DNA



Let's prioritize and document your best DNA matches

	A	B	C	D	E	F	G	H	I	J	K
	DNA Company	DNA Match Name	Total DNA Shared (cM)	Largest segment (cM)	2nd largest segment	3rd largest segment	Number of Segments	Public Tree Size	Maternal or Paternal	X Match	Surname, ethnicity, and/or location clues
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											

Keep track of your best matches in a spreadsheet or simply on a piece of paper



Shared DNA  $\geq$  90 cM  
Longest segment  $\geq$  20 cM  
Number of segments  $\leq$  11 (less is better)

OR

Any match with longest segment  $\geq$  40 cM,  
regardless of total Shared DNA

Select your matches that you share 90+ cM with

1

2

3

4

Benjamin Kempner's DNA Matches

All matches By parent BETA By ancestor By location

Filter by: Unviewed Common ancestors Notes Trees Shared DNA Groups

Shared DNA

All matches (166,973)

Close matches—4th cousin or closer (19,420)  
20 – 3,480 shared centimorgans

Distant matches (137,559)  
6 – 20 shared centimorgans

Custom centimorgan range

90 Enter cM  
Min of 6 cM Max of 3,480 cM

Reset Apply

Note: you can set an upper limit to filter out close relatives

## Find matches with 20+ cM & ≤ 11 segments

Look at each of your matches (90+ cM)

Record each match that has a largest segment of at least 20 cM

And who share less than 12 segments

Keep track of the names

**Bonita** 2nd – 3rd Cousin  
132 cM | 2% shared DNA  
Unassigned **5**

**You and Bonita**  
Shared DNA: 132 cM across 7 segments  
Unweighted shared DNA: 132 cM  
Longest segment: 40 cM **6**

Less than 12 segments

20+ cM longest segment

**7**

Chromosome	Start (cM)	End (cM)	Match	Relationship	Shared cM	Longest Segment (cM)	Number of Segments
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							

37

## Any match with a longest segment of 40+ cM should go on your “best matches” list

**8**

Filter by Shared DNA and select 40 – 89 cM AND Public linked trees.

Public linked trees 40 - 89 cM

**9**

Click on the middle line with cM

**lou** 4th – 6th Cousin  
63 cM | < 1% shared DNA  
Parent 1's side

**Jon** 4th – 6th Cousin  
61 cM | < 1% shared DNA  
Unassigned

**Donna** 4th – 6th Cousin  
59 cM | < 1% shared DNA  
Parent 2's side

Molly Alenest 4th – 6th Cousin

**10**

Select matches with longest segment 40+ cM

**You and lou**  
Shared DNA: 63 cM across 5 segments  
Unweighted shared DNA: 82 cM  
Longest segment: 40 cM

Lou **DOES** make the cut – longest segment is 40 cM

**You and Jon**  
Shared DNA: 61 cM across 4 segments  
Unweighted shared DNA: 87 cM  
Longest segment: 49 cM

Jon **DOES** make the cut – longest segment is 49 cM

**You and Donna**  
Shared DNA: 59 cM across 8 segments  
Unweighted shared DNA: 87 cM  
Longest segment: 21 cM

Donna **doesn't** make the cut – longest segment is 29 cM

38

# Your prioritized list will become much more manageable

Total matches = 156,979

Matches that share 90+ cM = 47

Matches that share 90+ cM and have a longest segment  $\geq 20$  cM = 14

Matches w/90+ cM, longest segment  $\geq 20$  cM AND less than 12 segments = 11

Add matches w/longest segment of 40+ cM (6) = 17

When you're recording your "best matches", don't forget to note the size of their public tree!



- Public linked tree  
1,955 People
- Public linked tree  
111 People
- Public linked tree  
7 People



Shared DNA  $\geq 1.3\%$  (97 cM)  
 Longest segment  $\geq 20$  cM  
 + 2 more segments  $\geq 10$  cM

OR

Any match with longest segment  $\geq 40$  cM,  
 regardless of total Shared DNA

### Sort 23andMe matches by Segments shared...

1. Home navigation menu with 'DNA Relatives' highlighted.

2. 'Showing 1502 of 1502 relatives' header with a 'Sort by' dropdown menu.

3. 'Sort by' dropdown menu with 'Segments Shared' selected.

☆ AP Adam	6th Cousin	1.78% DNA shared, 16 segments
☆ PD Patricia	3rd Cousin	1.71% DNA shared, 16 segments

☆ LB Linda	3rd Cousin	0.99% DNA shared, 12 segments
☆ AA Avital	3rd Cousin	2.17% DNA shared, 11 segments
☆ RS Ronald	2nd Cousin	1.74% DNA shared, 11 segments
☆ Shlomo	2nd Cousin	1.58% DNA shared, 11 segments

23andMe shows your matches in segment size groups with the most shared DNA at the top of each segment size.

41

### Then go through segment size group & "star" favorites...

4. For each segment size group, click on the star for matches that share 1.3% or more.

Starred matches become your "Favorites".

☆ SW Sharon	2nd Cousin	1.54% DNA shared, 11 segments
☆ LO Lauren	3rd Cousin	1.44% DNA shared, 11 segments
☆ HP Hank	3rd Cousin, Twice Removed	1.46% DNA shared, 11 segments
☆ YB Yvonne	3rd Cousin	1.35% DNA shared, 11 segments
☆ FH Frieda	2nd Cousin	1.36% DNA shared, 11 segments
☆ KD kyla	2nd Cousin	1.29% DNA shared, 11 segments
☆ Golda	2nd Cousin	1.26% DNA shared, 11 segments

5. Filters sidebar with 'Favorites' checked.

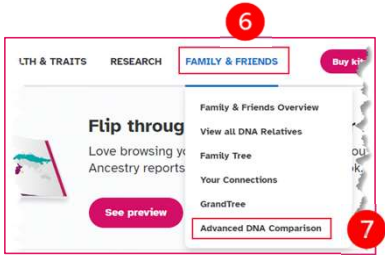
When you've created your Favorites, write the names down or take photos of those 2 or 3 screens or do "Print Screens".

42

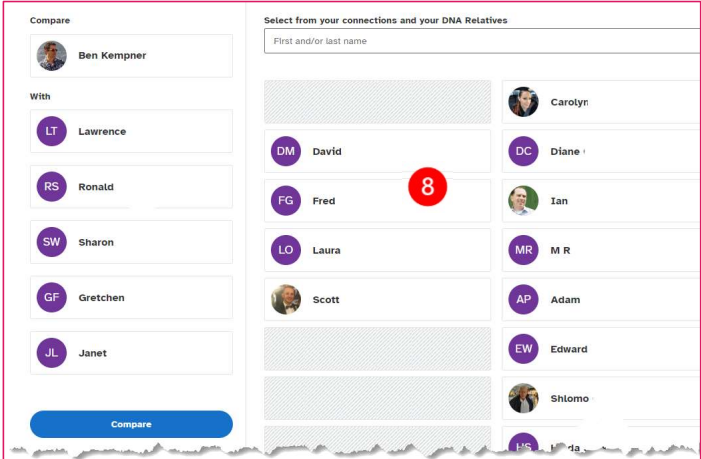
### Use the Chromosome Browser see which matches meet the criteria



Shared DNA  $\geq 1.3\%$  (97 cM)  
 Longest segment  $\geq 20$  cM  
 + 2 more segments  $\geq 10$  cM



- 6. Family & Friends
- 7. Advanced DNA Comparison
- 8. Select up to 5 matches from your list of matches sharing 1.3%+



### Here are 5 of my matches in the Chromosome Browser



Which matches have longest segment  $\geq 20$  cM + 2 more  $\geq 10$  cM?

How can you tell how long a match's segment is?



Just hover over the segment

Detailed segment data

Comparison	Chrom.	Start Position	End Position	Genetic Distance (cM)	Number of SNPs	Identity
Ben Kempner / Lawrence	1	82874978	99986861	16.76		3 <sup>rd</sup> Longest
Ben Kempner / Lawrence	2	45872989	49716853	7.56	1371	
Ben Kempner / Lawrence	5	83575198	157528485	65.78		Longest
Ben Kempner / Lawrence	6	9831538	13554943	7.86	1875	Half
Ben Kempner / Lawrence	6	37664221	43475474	8.63	1364	Half
Ben Kempner / Lawrence	17	2817879	5986442	7.98	931	Half
Ben Kempner / Lawrence	17	11423255	26618769	17.73		2 <sup>nd</sup> Longest
Ben Kempner / Ronald	1	78525234	79419439	6.11	1761	Half

Then scroll down to the Detailed segment data



Shared DNA  $\geq 100$  cM  
 Longest segment  $\geq 30$  cM  
 One segment  $\geq 15$  cM  
 One segment  $\geq 10$  cM

OR

Any match with longest segment  $\geq 40$  cM,  
 regardless of total Shared DNA

# Finding your matches that meet the first 2 criteria is easy!

**MyHeritage**

**DNA**

Order DNA kits

DNA Matches

Overview

Ethnicity Estimate

DNA Tools

Manage DNA kits

Upload DNA data

Order DNA kits

**Shlomit**  
Age: 70's  
DNA managed by you  
Estimated relationships: 1st cousin once removed - 2nd cousin once removed  
DNA Match quality: Shared DNA: 4.0% (285.4 cM), Shared segments: 20, Largest segment: 54.5 cM

**Yacov**  
Age: 50 or above  
From: Israel  
DNA managed by Daniel  
Estimated relationships: 1st cousin twice removed - 2nd cousin once removed  
DNA Match quality: Shared DNA: 3.1% (218.8 cM), Shared segments: 11, Largest segment: 94.7 cM

**Noga**  
Age: 70's  
DNA managed by Philip  
Estimated relationships: 2nd cousin - 2nd cousin once removed  
DNA Match quality: Shared DNA: 1.9% (132.6 cM), Shared segments: 14, Largest segment: 16 cM

47

# Finding the other segment sizes is easy too!



Shared DNA  $\geq 100$  cM  
 Longest segment  $\geq 30$  cM  
 One segment  $\geq 15$  cM  
 One segment  $\geq 10$  cM

For each of your matches sharing  $\geq 100$  cM & with a largest segment  $\geq 30$  cM,  
 Just click on Review DNA Match

**Norman**  
From: USA  
Contact Norman

Estimated relationships: 1st cousin once removed - 2nd cousin once removed

DNA Match quality: Shared DNA: 1.8% (125.4 cM), Shared segments: 12, Largest segment: 31.3 cM

Review DNA Match


Norman is currently not associated with a family tree on MyHeritage. You can contact him for more information.

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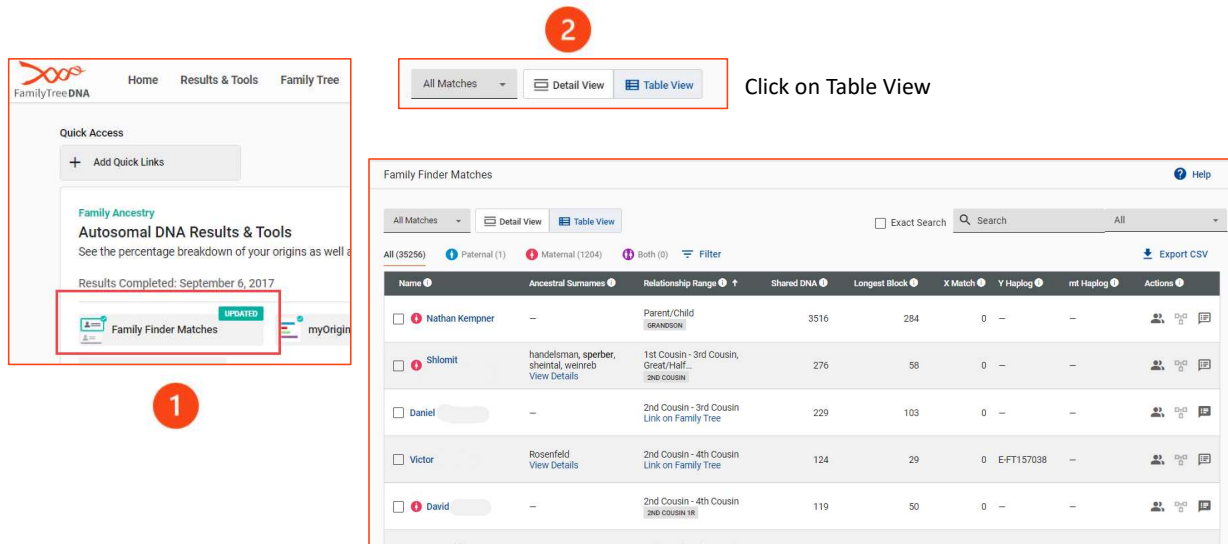

 Shared DNA  $\geq$  100 cM  
 Longest segment  $\geq$  30 cM  
 One segment  $\geq$  15 cM  
 One segment  $\geq$  10 cM

OR

Any match with longest segment  $\geq$  40 cM, regardless of total Shared DNA

## Go to your Family Finder Matches

1



2

Click on Table View

Name	Ancestral Surnames	Relationship Range	Shared DNA	Longest Block	X Match	Y Haplog	mt Haplog	Actions
<input type="checkbox"/> Nathan Kempner	—	Parent/Child	3516	284	0	—	—	
<input type="checkbox"/> Shlomit	handelsman, sperber, sheintal, weinreb	1st Cousin - 3rd Cousin, Great/Half... 2nd cousin	276	58	0	—	—	
<input type="checkbox"/> Daniel	—	2nd Cousin - 3rd Cousin Link on Family Tree	229	103	0	—	—	
<input type="checkbox"/> Victor	Rosenfeld	2nd Cousin - 4th Cousin Link on Family Tree	124	29	0	E-FT157038	—	
<input type="checkbox"/> David	—	2nd Cousin - 4th Cousin 2nd cousin	119	50	0	—	—	

### Check the boxes next to your matches that share 100+ cM

The screenshot shows a table of DNA matches. A red box highlights the first seven rows, each with a checked checkbox in the left margin. A red circle with the number '3' is placed next to the first row. The table columns include Name, Ancestral Surnames, Relationship Range, Shared DNA, Longest Block, X Match, Y Haplog, mt Haplog, and Actions. At the bottom, a 'Compare Relationship' button is highlighted with a red box, and a red circle with the number '4' is placed next to it.

Name	Ancestral Surnames	Relationship Range	Shared DNA	Longest Block	X Match	Y Haplog	mt Haplog	Actions
<input checked="" type="checkbox"/> Nathan Kempner		Parent/Child GRANDSON	3516	284	0	-	-	[Icons]
<input checked="" type="checkbox"/> Shlomit	handelsman, eperber, sheintal, weinreb	1st Cousin - 3rd Cousin, Great/Half... 2ND COUSIN	276	58	0	-	-	[Icons]
<input checked="" type="checkbox"/> Daniel		2nd Cousin - 3rd Cousin Link on Family Tree	229	103	0	-	-	[Icons]
<input checked="" type="checkbox"/> Victor	Rosenfeld	2nd Cousin - 4th Cousin Link on Family Tree	124	29	0	E-FT157038	-	[Icons]
<input checked="" type="checkbox"/> David		2nd Cousin - 4th Cousin 2ND COUSIN 1R	119	50	0	-	-	[Icons]
<input checked="" type="checkbox"/> James David		2nd Cousin - 4th Cousin Link on Family Tree	113	38	0	-	-	[Icons]
<input checked="" type="checkbox"/> Jules		2nd Cousin - 4th Cousin Link on Family Tree	110	27	0	-	-	[Icons]
<input type="checkbox"/> susan lumiere		2nd Cousin - 4th Cousin Link on Family Tree	103	18	0	-	-	[Icons]

You can check up to 7 people at once. Then click "Compare Relationship"

4

### Filter out segments less than 10 cM

The screenshot shows the 'Chromosome Browser' interface. A red box highlights the 'Compare' section on the left, where a dropdown menu is open showing '6+ centimorgans' and '10+ centimorgans'. A red arrow points to the '10+ centimorgans' option, and a red circle with the number '5' is placed next to it. The main area shows a chromosome map with various colored segments representing DNA matches. The 'Update Selected Matches' button is visible at the bottom left.

## Then view the Detailed Segment Data



Shared DNA  $\geq 100$  cM  
 Longest segment  $\geq 30$  cM  
 One segment  $\geq 15$  cM  
 One segment  $\geq 10$  cM

Shared DNA Segments

Chromosome View Detailed Segment Data **6**

10+ centimorgans

**1**

Shared DNA Segments

Chromosome View Detailed Segment Data

Match Name	Chromosome	Start Location	End Location	Centimorgans(cM)	Matching SNPs
Daniel	2	42,985,395	3 <sup>rd</sup> Longest	22.51	7,559
Daniel	2	224,999,824	229,908,613	6.21	1,473
Daniel	3	174,117,111	177,604,731	6.62	1,043
Daniel	4	7,700,712	2 <sup>nd</sup> Longest	23.02	5,599
Daniel	4	38,984,852	56,904,059	12.43	3,592
Daniel	5	73,076,457	77,243,183	7.96	1,517
Daniel	8	126,439,329	130,358,311	7.31	1,456
Daniel	9	10,753,557	Longest	102.74	25,749
Daniel	9	46,587	2,630,785	8.07	1,606
Daniel	11	198,510	5,430,603	11.14	2,120
Daniel	11	32,192,156	36,421,759	7.36	1,709
Daniel	19	8,326,866	12,530,177	6.51	1,162
Daniel	21	38,006,139	41,515,029	7.14	1,422

**8**

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## Finding matches with a longest segment of 40+ cM is easy w/FTDNA

Name Ancestral Surnames Relationship Range Shared DNA Longest Block X Match Y Haplog mt Haplog Actions

Nathan Kempner - Parent/Child GRANDSON Centimorgan value of the longest segment of shared DNA between you and the match. A higher value indicates a closer genealogical relationship. 0 - -

**1**

Click on Longest Block and the list will be sorted in ascending order with the shortest blocks at the top.

Longest Block

7

7

Name Ancestral Surnames Relationship Range Shared DNA Longest Block X Match Y Haplog mt Haplog Actions

Nathan Kempner - Parent/Child GRANDSON Centimorgan value of the longest segment of shared DNA between you and the match. A higher value indicates a closer genealogical relationship. 0 - -

**2**

Just click on Longest Block again and the list will be sorted in descending order with the longest at the top.

Longest Block X Match

284

103

58

50

56

## Finish adding your matches that meet the criteria to your list

Shared DNA  $\geq$  100 cM  
 Longest segment  $\geq$  30 cM  
 One segment  $\geq$  15 cM  
 One segment  $\geq$  10 cM

	A	B	C	D	E	F	G	H	I	J	K
	DNA Company	DNA Match Name	Total DNA Shared (cM)	Largest segment (cM)	2nd largest segment	3rd largest segment	Number of Segments	Public Tree Size	Maternal or Paternal	X Match	Surname, ethnicity, and/or location clues
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											

## Next steps!

- Congratulate yourself on a job well-done!
- Look for additional clues for the people on your “best matches” list.
  - Surnames
  - Locations
  - Shared matches
  - Family trees – be sure to check to see if they’ve provided sources for their people – BMD records, etc.
- Now you’re ready to contact your matches to learn more about your family history!



## Reaching out to DNA matches

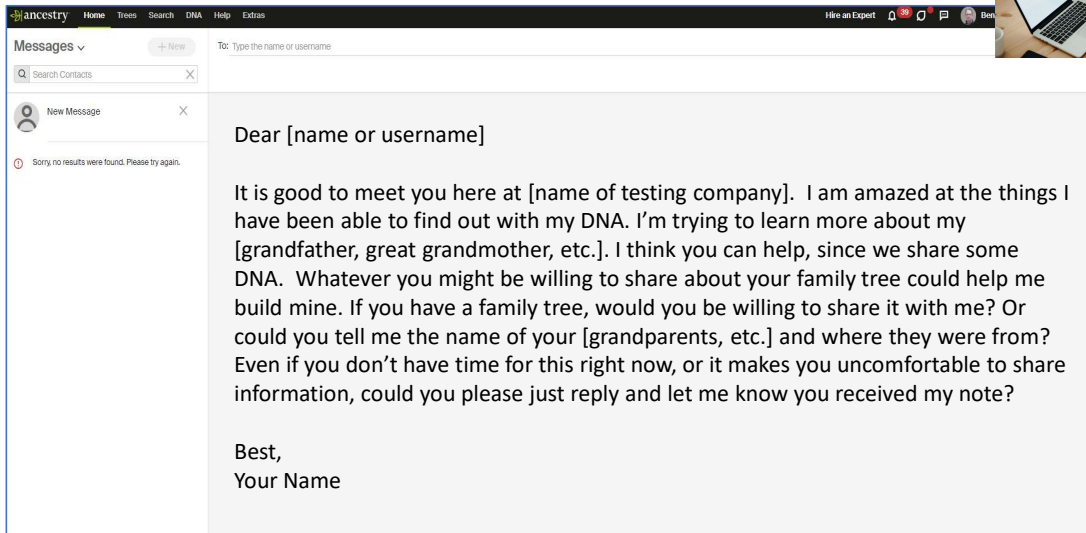


## Tips for contacting your DNA matches

- Start with their name – it's more personal. As some people administer more than one DNA account, make sure they know you're talking about.
- Keep it short.
- Ask a simple question – keep locations & names general (i.e. counties, states, surnames, not streets and full names).
- Start with Qs about deceased relatives, not living – until they're more comfortable.
- Don't mention centimorgans – it can be intimidating.
- Give them an easy action item.
- Always be respectful of their privacy.



## Sample letter



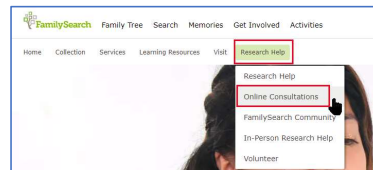
Source: Diahn Southard - <https://www.yourdnaguide.com/ydgblog/contacting-your-dna-matches>

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## Did you know that you can get a free consultation with someone at the SLC Family History Library w/o leaving home?

Go to [familysearch.org/library](https://familysearch.org/library) and sign into your account.

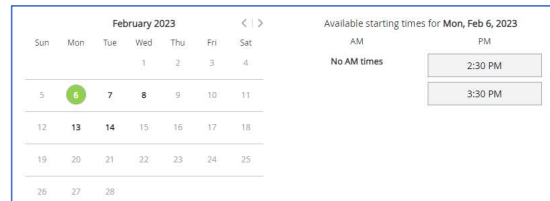
Click on Research Help and then "Online Consultations".



Click on "Schedule Now".



Select your area of research.



Available times will appear. Schedule your consultation!

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