

Help! I Just Got My DNA Results and I'm Confused

Prioritize your match lists, get organized and thus reduce the stress and confusion

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- The primary goal of working with DNA matches and ethnicity is to assist you in your genealogical research. To fill out the branches and leaves of your Family Tree.
- I have tested at the four major companies and have nearly 250,000 matches. Stress, confusion, what do you do next...these are the things we are all confronting. Let's take it step by step to slow the process down and deliver results by managing expectations and prioritizing your matches
- Managing Expectations and the 4 rules:
 1. Rule 1: **This is a new science and things are changing rapidly!**
 2. Rule 2: **"Based upon what we know now..."**
 3. Rule 3: **Go back to verify if anything has changed**
 4. Rule 4: **Autosomal DNA inheritance is random think Chicken Soup!**
- You are doing data analysis and interpretation – FOLLOW THE EVIDENCE!
 1. Do not draw conclusions based upon what we want the results to be
- If you are new to this be prepared that you may learn secrets that you and/or others may not want to know about
- Genetic Genealogy is a tool in your Genealogical Tool Belt
 1. ***It is not stand alone!***
 2. Ethnic Origins you receive are just estimates and will change
 3. DNA is a key to confirming or denying family relationships
- Chart showing generations, shared ancestor, max # of possible ancestors, matches to look for and average % of DNA each generation
 1. Autosomal DNA dilutes by about 50% each generation you go back in time
- Chart showing history timeline of the Jewish people and where DNA fits in
 1. Autosomal DNA is only reasonably accurate back to about 300 years ago +/- 100 years.
- National Treasure movie helps remind us that we are looking for clues to our ancestors & when we get them, sometimes a clue is just a clue that leads to another clue that could lead to the Eureka Moment...or another clue. I like clues, they identify and help break down brick walls.
- mtDNA is passed down from mother to her children virtually unchanged
 1. Used to confirm/deny direct maternal line relationship regardless of surname

- 2. Discussion regarding testing and upgrading from basic test
- Y-DNA is passed down from father to sons mutating infrequently
 - 1. Used to confirm/deny direct paternal line relationship regardless of surname
 - 2. Discussion of testing types and upgrades of existing tests
- Autosomal DNA randomly received at conception from mother and father
- Discussion and review of Ethnicity Estimates and match results
 - 1. My Heritage
 - 2. Ancestry
 - 3. 23andme
 - 4. Family Tree DNA
- Key take-aways and explanation of autosomal DNA ethnicity and matching
- Chart on How Much DNA in cM you can expect based upon a relationship
 - 1. Lara Diamond data compared to Shared cM Project (all people)
 - 2. Shows a range of total shared DNA ranges min/max and average
 - 3. Explanation of Endogamy
- Matches – What do real autosomal matches look like at each testing company?
 - 1. Prioritizing matches to a reasonable, management number of people you can contact that you could be related to in the timeframe of your Genealogy Tree.
 - 2. *IGNORE THE "COUSIN" ESTIMATES by the company in all cases*
 - 3. For each one there will be a formula* that I utilize (subject to Rules 1 & 2).

Basic common formula is > 95cM shared DNA + 1 segment of > 20cM + 2 segments >10 cM then triangulate (does your match, match your known matches on the same, not all segments)

In all cases more is better.

a) Family Tree DNA

- (1) Take match list and re-sort by Longest Block (Segment)
 - (2) Select those that meet the criteria of Longest Block >20cM
 - (3) Write them down or enter them in your own spreadsheet
 - (4) Utilize Chromosome Browser set to 10cm (upper left of screen)
 - (5) Move your mouse cursor over the segments and read the size
 - Do not estimate length by visual size of segment (chromosomes are not the same length)
- Charts of Chromosome Browser
 - Endogamy not closely related at 1cM
 - Endogamy not closely related at 10cM
 - Real relationship even with endogamy at 1cm
 - Real relationship even with endogamy at 10cm
 - Chart of FTDNA Matrix (triangulation related)

- b) 23andme
 - a. Unique first step formula
 - i. % of DNA Shared of $>1.60\%$ and Number of Segments <10
 - ii. Re-sort match list by Segments (upper right corner) and list those who match the formula for further processing (takes less than 30 minutes)
 - b. Write their information down or enter into a spreadsheet (amazing how few there are compared to your total match quantity)
 - c. Compare them to you in the Chromosome Browser (go to bottom of that page)
 - i. Do they qualify at $>95\text{cm} + >20\text{cM} + >10\text{cM} + >10\text{cM} + \text{triangulation}$?
 - d. Charts showing a real prioritized match and one that does not qualify
 - e. Chart showing triangulation or what they call shared DNA (with your matches)
- c) My Heritage
 - (1) Review match list
 - (2) Do they qualify at $>95\text{cm} + >20\text{cM} + >10\text{cM} + >10\text{cM} + \text{triangulation}$?
 - (3) Chart that shows your matches and prospect's matches and symbol shown if triangulate
 - (4) Write these people down or enter into a spreadsheet (amazing how few there are compared to your total match quantity)
- d) Ancestry – has different formula as they do not have chromosome browser
 - (1) $>100\text{cM}$ Total Amount of DNA (more is better) / (divided by) the Number of Segments (small is better) = >20
 - (2) Examples of the math formula
 - (3) Chart showing a real match of 138 cM shared across 5 segments
 - (4) An option would be to download raw data and upload it to Gedmatch to utilize that chromosome browser
 - (5) However early in August 2020, Ancestry plans to provide us with the Longest Segment information. I don't yet know if we will be able to sort matches by this.
 - (a) Therefore the Standard Formula will be applicable of $>95 + \text{Longest Segment} >20 \text{ cM}$.
 - (b) Again, the number of total matching segments should be a small number.
- e) Gedmatch Genesis
 - (1) Upload any of your other testing site raw data (follow instructions carefully)
 - (2) Sort one to many match lists by longest segment.
 - (3) Write down the ones that qualify by the standard formula
 - (a) $>95\text{cm} + >20\text{cM} + >10\text{cM} + >10\text{cM}$
 - (b) Triangulate
 - (i) by 1 one to one match
 - (ii) do your matches match them?

- Chart

1. Case Study on Confirmation Table - Bardige v Burdige

*Note that the formulas provided have not been empirically tested/verified. They are the ones that I have used to effectively prioritize my matches (and finding real relatives) to a reasonably sized list to start search and manage my own expectations.

As you get more advanced in your capabilities and work your way through the match lists, you may find that you can begin to expand the parameters of the formula to say >90 cM and $>20 + >10 + >10$. You can also use Cluster techniques to help determine possible next level prioritizations. DNA Painter tool can assist with what chromosome segments apply to the various branches of your family.

The key to success will be your family tree – Can you find where your matches fit on your tree and document that information? Remember spelling doesn't matter.