

“How to Test Your DNA and Why”

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Types of DNA testing for genealogy and anthropology

- Y-chromosome DNA: male back to male, to male, etc. -- tracks surname
- Mitochondrial DNA (mtDNA): male or female back to female, to female, etc.

Y-Chromosome DNA

- Does not identify diseases or risks
- Only males have a Y-chromosome, passed down from father to son
- Passed down like surnames, so can be traced back
- Only one of a male's lines of ancestors
- To study another line, find a male to test from that line

Y-DNA

- DNA: deoxyribonucleic acid
- STR: short tandem repeat
- SNP: single nucleotide polymorphism
- DYS: DNA Y-chromosome segment, aka marker
- Allele: the value of a marker
- Haplogroup: set of values with a recurring pattern, designated A to T

Y-DNA Simplified

- 67 markers, e.g., 413b
- Value for each marker, e.g. 24
- Y-DNA: set of values for 67 markers for one person
- Haplogroup: group of matching Y-DNAs, e.g., R1b
- Genetic distance: number of mutations between Y-DNAs

Testing Organizations: Family Tree DNA (FTDNA), DNA Heritage, Oxford Ancestors, EthnoAncestry, 23andMe, Ancestry.com

Family Tree DNA (FTDNA)

- Best known; started in April 2000; largest database: 188,000 Y-DNA records, 6,000 surname projects; good at sharing information, expensive, but competitive, did National Geographic project

Test Planning

- Choose a testing organization: FTDNA recommended
- Decide who is to be tested
- Select 12, 25, 37, or 67 markers - more markers are more accurate but cost more

Step 1. Select a Surname Project

- Research your surname for variants
- Go to FTDNA at: familytreedna.com

- Search for a project at FTDNA
- If no project, start a new project or join a geographic project. After you get results, other projects can be joined at no extra cost

Step 2. Enroll and Pay Online

- Go to: www.familytreedna.com
- Search for surname
- Order selected test
- Contact information
- Shipping address
- Phone and email
- Provide payment information or request an invoice

Step 3. Get Kit in Mail, Test, Return

- Swab kit: 3 scrapers with cotton “toothed” tips, 3 tubes for 3 tips, return envelope
- Swab inside of cheek 3 times, 60 seconds each, 4 hours apart

Step 4. Get Results Online

- Use your kit number and password to get to My FTDNA Home at: familytreedna.com
- Get results in about 6 weeks: Your haplotree: history of your Y-chromosome; Recent ancestral origins by country; Your marker values; Matches with other people

Step 5. Add Genealogical Data: family tree; most distant known ancestor

Step 6. Do Some Research

- Email people you match up with
- Compare with others in your surname project
- Join additional surname projects: Name variants, Geographic projects, Haplogroup projects
- Do deep clade testing
- Upload your results to Ysearch: Search for more matches with people; Search for matches with haplotype modals
- Study the origin of your ancestors
- Study clan history
- Visit the area they came from
- Recruit new project members
- Incorporate the results in your genealogy

Pluses/Minuses of Y-DNA Testing

Pluses

- Surname matches
- Mismatches
- Variant surnames
- Geographical origin
- Clan origin
- Ethnoancestry
- Feeling connected

Minuses

- Cost
- Complexity
- Computer skills
- Patronymic only
- Time consuming
- No or few matches
- Disappointment