

Tracing Women in Your Family Tree

Section 5: Using mtDNA to Trace Female Ancestors

Melanie McComb, Senior Genealogist, melanie.mccomb@americanancestors.org

Basics of mtDNA (mitochondrial DNA)

- mtDNA is passed on from mother to child
- Men have mtDNA but do not pass mtDNA on to their children
- mtDNA has a “matrilineal” inheritance pattern

xDNA

- X-DNA is found in both males and females.
- Due to the way it is passed down, X-DNA follows only certain maternal lines in your family tree. (See the link in the resource list for fan charts with these lines.)
- If you have an X-DNA match you are related on the lines shown on the two charts. Caution at FamilyTreeDNA: check the number of centimorgans (cMs) on the chromosome browser to see if the match is at least 7 cMs. FTDNA will flag even small blocks as an X-Match which may be too small to be a reliable match.
- However, the converse is not true. If you do not have an X-DNA match it could mean a distant (or even close) ancestor’s X-DNA is not showing up and you might still be related on your X-DNA lines.
- All the companies test X-DNA as part of autosomal testing but to access X-DNA on AncestryDNA or MyHeritage you must transfer your raw data or use a third-party site such as GEDmatch.

Testing Companies – where mtDNA and xDNA can be analyzed

- FamilyTreeDNA: <https://www.familytreedna.com/>
 - Discover Reports help you learn about migration maps, close DNA matches based on time, ancient connections, and more.
- Living DNA: <https://livingdna.com>
- 23andMe: <https://www.23andme.com/> - Provides mtDNA haplogroup only

Published Resources

Bettinger, Blaine. *The Family Tree Guide to DNA Testing and Genetic Genealogy*. 2nd ed. Family Tree Books, 2019.

Child, Christopher C. “The Hanks DNA Study: I Was Wrong!” *American Ancestors* 55, no. 3 (2016): 55–57.

Child, Christopher C. "Using mtDNA to Identify Remains: Twenty Years in Review." *American Ancestors* 14, no. 3 (2013): 55–56.

Child, Christopher C., Sam Sturgis, and Greta Anscheutz. "Tracing Native American DNA to Colonial Quebec." *American Ancestors* 17, no. 4 (2016): 55–57.

Dunn, Michael Sean. "The Parents of Esther (Dyer) Flanders (1790–1876) of Braintree, Vermont, and Livingston County, New York: A Matrilineal Priscilla Mullins Descent." *Mayflower Descendant* 66 (2018): 23–48, 178.

Estes, Roberta. *The Complete Guide to FamilyTreeDNA: Y-DNA, Mitochondrial, Autosomal and X-DNA*. Genealogical Publishing Company, 2024.

Haines, John Welsey. *Richard Haines and His Descendants: A Quaker Family of Burlington County, New Jersey, since 1682*. Carr Publishing Company, 1961–65.

Southard, Diahan. *Your DNA Guide the Book: Step-by-Step Plans to Connect You with Your Family Using Your DNA*. Your DNA Guide, 2020.

Watson, Ian. "The Origins of Aquila Ramsdell's Given Name: Investigating the 17th Century with Mitochondrial DNA." *American Ancestors* 18, no. 2 (2017): 54–56.

Wayne, Debbie Parker. *Advanced Genetic Genealogy: Techniques and Case Studies*. Wayne Research, 2019.

Blogs

- Blaine Bettinger: The Genetic Genealogist <http://thegeneticgenealogist.com/>; X-DNA charts <https://thegeneticgenealogist.com/2013/03/22/looking-for-my-x-dna-charts/>
- CeCe Moore: Your Genetic Genealogist <http://www.yourgeneticgenealogist.com/>
- Judy Russell: The Legal Genealogist <http://www.legalgenealogist.com/category/dna/>
- Chris Child, "X Marks the Spot," <https://vita-brevis.org/2015/11/x-marks-the-spot/>
- Chris Child, "King Richard III's Matrilineal Kin," <https://vita-brevis.org/2015/04/king-richard-iiiis-matrilineal-kin/>

Online Resources

- Genetic Genealogy Tips & Techniques Facebook Group <https://www.facebook.com/groups/geneticgenealogytipsandtechniques>
- International Society of Genetic Genealogy Wiki <https://isogg.org/wiki>