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Title

Learn more from autosomal and X-chromosome DNA: Understand which DNA came from whom and just how good are ethnic ancestry predictions?

Summary

Autosomal DNA tests can be taken by males and females to find genetic cousins as well as genetic ethnicity. By comparing the DNA of more than one relative (supplemented with information from the X-chromosome) and using available online tools, we can begin chromosome mapping to identify which DNA has been inherited from which ancestor, aiding the search for ancestors shared with predicted relatives.

Abstract

If two people share an ancestor in the recent past, comparing their autosomal DNA can be used to predict their likely relationship. When an individual receives their autosomal results from a testing company that includes lists of predicted genetic relatives – it might be difficult to determine which line to examine when searching for the shared ancestor.

As prices fall for genealogical DNA tests it becomes increasingly feasible to test more family members with known relationships. Using available online tools to examine and compare those results, we can begin the process of identifying which DNA segments we have inherited from particular ancestors. Armed with this information we are better able to begin chromosome mapping, and can better identify which family lines to consider when contacting those who the DNA databases predict to be our genetic cousins.

Additionally, we can verify the accuracy of constructed family trees by testing the DNA for those whom we believe we already know the relationship.

As males only inherit an X-chromosome from their mother, considering X-chromosomes along with autosomes can indicate whether segments of a family tree should or not need be considered in the search to identify the shared ancestor.

As well as the functions available on the websites of the main genealogical DNA testing companies (Family Tree DNA, 23 and Me, and Ancestry.com), free third-party tools are available online to facilitate data analysis and comparisons, helping researchers extract more information and draw more conclusions from autosomal tests.

The presentation also examines the various ethnic ancestry percentages determinations, which are based on autosomal DNA test results.

Audience

Intermediate to Advanced