Angie Bush, MS
Senior Genealogist
abush@ancestry.com

A Deep Dive Into
Your DNA Results

Ethnicity

Many people take a DNA test simply to find out how much German, Irish or Native American DNA that they have. Most non-genealogists are lured into the world of family history through the marketing of these tests but trying to determine what they mean or why results can be different between companies can be overwhelming. The following concepts are important to keep in mind when trying to make sense of your pie chart.

1. Your genetic family tree is a subset of your genealogical family tree. Due to the random nature of genetic inheritance, there are ancestors 8-15 generations back in time that you received no DNA from.
2. The DNA that is passed onto you from your parents is a random 50% of their DNA. This means that siblings will not share identical ethnicity profiles.
3. Reference populations: In order to provide analysis of where our DNA came from, each company has built reference populations to compare the raw genetic information to. These reference populations are comprised of groups of living people with known ancestries. There are some publicly available reference panels, and each testing company has proprietary groups in their reference population.
4. Each company has defined geographic areas and boundaries slightly differently. For example, *23andMe* and *Family Tree DNA* lump Great Britain and Ireland into one "British Isles" category, while *AncestryDNA* and *MyHeritageDNA* separate Ireland from Great Britain. Additionally, current nation state boundaries may not align with historic boundaries, migrations or populations. Therefore, the differences that can be detected in our DNA using admixture analysis may not fit with our expectations.
5. Analysis algorithms: Each company has also developed different algorithms that they use to interpret the data and present it to consumers. Each company has also identified different "ancestrally informative markers" or AIMs that they use in their analysis
6. Timeframe and migration are also important considerations when looking at your ethnicity estimate in conjunction with your genealogical research. The ethnicity estimate provides an indication of where your ancestors were 500-600 years ago. Migration across hundreds of years can affect this estimate, and result in differences between the paper trail and the genetic analysis.

