



Native DNA Results Tutorial

Hello and thank you for choosing Native DNA! We are pleased to present you with your Native DNA Ancestry Analysis[®] and hope that you enjoy discovering your ancestry as much as we enjoyed performing the analysis. This tutorial was specially designed to help you get the most out of your results. As you read, we hope that your questions will be answered and that you'll then be able to explain the results to family and friends. The sections provided within this document give details concerning your certificate of ancestry, world map, and unfiltered extended match result portions of your DNA analysis. Without further ado, let's proceed...

**You can download the latest copy of this document at anytime on our website at the following link: <https://www.native-dna.com/faq.html> Also, you may find the FAQ (Frequently Asked Questions) page at this link very useful. Other information concerning our research and development, and company in general is available on our website, Facebook, and YouTube. Please feel free to contact us anytime!*

I. Certificate of Ancestry

Your certificate is the most concise piece of information within your results package. It contains all of the crucial information we were able to gather from the DNA sample you provided us. This information was filtered for an extended period by our DNA analyst until confidence was reached that the best information could be provided to you. For instance, the percentage of ancestry estimates found on the lower left side of your certificate of ancestry are determined not only by what Pinnacle (our ancestry finding computer program) suggests your ancestry to be, but also by detailed inspection by the owner/operator to ensure you receive the most accurate results. Are these results perfect? Typically, they are the best on the DNA testing market. We are proud of this fact. However, it is possible that the percentages estimates could be a bit off due to random assortment of genetic material within your DNA occasionally making it difficult for us to obtain absolutely perfect results. Errors, if they occur, are typically twice the actual admixture present in a person. In other words, a tested individual could be only 10% Native American instead of 20% as indicated by the analysis, or 6% instead of 12% etc. etc. Unfortunately, there is simply no way to completely avoid errors such as these within DNA estimates of ancestry. According to our scientific research and our customer's feedback, such errors are rare. Additionally, please consider that a greater number of STR markers used in your analysis provides results of increasing precision. Through years of experience, we've noticed that 15 STR markers (two values per locus for a total of 30 unique numbers within your genetic profile) is often the minimum amount of STR data from which you can expect reasonable results. Native DNA offers STR tests of up to 28

STR markers (two values per locus for a total of 56 unique numbers within your genetic profile). Tests can be purchased at <https://www.native-dna.com/order.html>

You will find your final world population list on the right side of your certificate of ancestry. Much like your percentages of ancestry, this list of populations was filtered by someone who has thousands upon thousands of hours of experience reading ancestry results, and not simply a computer doing all the work. These populations are the ones your DNA most closely matches within our population database, which currently contains over 1200 populations from around the world.

Simulated 1 (Sim 1) - Population derived from the averaging of population statistics and is the most accurate of the three simulated population types.

Simulated 2 (Sim 2) - Population formed as the result of a its known genetic admixture and it based off genetic information from preexisting studies or empirical observations. These are primarily composite populations (e.g., populations consisting of ancestry from three or more distinct world regions).

Simulated 3A (Sim 3A) - Population formed when a person of known ancestry provides a genetic profile, and a simulated population is then constructed from that data. Antecedent knowledge of both STR statistics and genetic admixture is not available in such cases.

Simulated 3B (Sim 3B) - A population which, after obtaining full signed legal permission from the sample provider, is assigned the sample providers name with the intent of improving customer results through the identification of global ancestral connections.

II. World Map

This map simply illustrates where the world populations listed on the right side of your certificate of ancestry are located on the Earth. Being able to visualize where these populations are located is advantageous by providing clues concerning relationships to nearby populations and migration routes across the Earth. Filled yellow circles indicate where your strongest matches are located. Moreover, filled red circles indicate the location of your medium strength matches, and blue your lowest scores. This is an excellent visual guide to understanding your results...

All filled yellow markers combined make up 50-100% of your ancestry

All filled red markers combined make up 25-50% of your ancestry

All filled blue markers combined make up 25% or less of your ancestry

-Markers which are outlined in orange indicate your strongest match for each continental region appearing in your results. The continental regions consist of America (both north and south

are combined), Africa, Asia, Europe, and Australia. Markers outlined in purple indicate your second strongest match from each region.

*Triangles indicate diaspora populations which contain a significant Native American admixture

*Stars indicate diaspora populations which contain a significant Sub-Saharan admixture

*Squares indicate diaspora populations from Europe

*non-filled (oval-like) circles indicate populations of strongly mixed ancestry (such as Roma, Polynesian, certain Caribbean peoples etc.)

-The same convention applies for diaspora outlined colors as mentioned in the previous indented and italicized discussion concerning this topic above.

III. Unfiltered Match Results

Included with your results are files named “17 STR Unfiltered Results” and the other “28 STR Unfiltered Results”. However, if we performed your analysis using you previously obtained STR profile, the number of STR’s used may vary. These valuable files contain your world population list as it appeared straight from our computer program, Pinnacle, of which we have two versions. Since we have developed two separate versions of Pinnacle, one of which operates on up to 17 markers and another that uses up to 28, we find it important to provide you with the unfiltered results of both versions to help support your personal research. The numerical values to the right of the world population listing is called power of exclusion (or POE for short). POE basically tells us how likely your match is to be false. This means that the lower numbers are your strongest matches. For example, $3.13E+32$ is a much stronger match than $2.18E+33$. This information, although unfiltered by the owner/operator, can still provide interesting background information to our customers, therefore we have continued to provide this data with every order.

IV. Other Helpful Information

DNA testing for ancestry often produces results which take time, resources, and determination to understand. A few thought exercises which you may find helpful in shifting your mindset, and therefore brining you closer to understanding your results are **1)**. Were you present when your relatives in question were walking the Earth? Do you truly feel that you have a deep understanding of who they were? **2)**. If you’d rather not take time to understand the depth of your results, why bother with DNA testing for ancestry? This is strongly related to question **1**.

V. Ongoing Projects at Native DNA

*10-8-2019 – Began working to improve the Native DNA Ancestry Analysis with the use of additional classes of simulated populations (see description on top of page 2). This work will be long term, with no expected end date as of now. Also, continuing to add new populations from global peer reviewed frequency studies, and perfecting the synergistic analysis technique developed during summer 2019.

*Preparations for the first Native DNA population study samples have begun. Priority populations include Chickasaw, Native Hawaiian, Iroquois, Mississippi African American, and Louisiana Creole. The goal is to gather and assimilate two of these population samples by the end of summer 2021.

Sincerely,

Chris Lisauckis (M.S.) – Owner/Operator

<https://www.facebook.com/NativeDna>

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Do you have questions or comments? Let us know! Nativednatesting@gmail.com