



Introduction

Thank you for choosing DNA Tribes™ Genetic Ancestry Analysis. The results reported below indicate the places your overall blend of ancestry is most frequent and where your ancestors left the strongest genetic footprints. Your results come in four parts: Genetic Profile, Native Population Match, Global Population Match, and World Region Match.

Part A: Genetic Profile: Your unique genetic profile includes your allele values for 13 genetic markers distributed throughout your autosomal chromosomes. At each locus, you have two values: one allele inherited from your father and one allele inherited from your mother, for a total of 26 dimensions used to compute your geographic ancestry. Values from all thirteen markers are used to compute high resolution population and world region matches.

Part B: Native Population Match: These results are your Top 20 matches in a database of 467 native populations that have experienced minimal movement and admixture in modern history (roughly, the last 500 years). Individual matches do not necessarily indicate recent social or cultural affiliation with a particular ethnicity. Instead, the geographical distribution of your Native Population Match results indicates your most likely deep ancestral origins.

Part C: Global Population Match: These results are your Top 20 matches in a database of 655 global populations, including native peoples as well as Diaspora groups that expanded from their homelands and sometimes admixed with other populations in recent history. The geographical distribution of your Global Population Match results indicates your closest genetic relatives today and peoples whose blend of geographical ancestry is most similar to your own.

Part D: World Region Match: World Region Match represents the most comprehensive portion of your genetic ancestry analysis. These regions are the product of long term patterns of interactions between peoples within major geographic and cultural zones over hundreds and often thousands of years. World region results provide a broader, more general view of where your genetic ancestry is found among major regions of the world.

The highest score indicates your primary geographical affiliation, and subsequent scores indicate secondary regions where your blend of ancestry is present and/or possible sources of admixture. The regions where your DNA profile is most frequent are mapped as large circles, and other regions are plotted as circles visually scaled according to match scores.

The map on the next page illustrates the world regions distinguished by DNA Tribes™ genetic ancestry analysis. Populations of most regions also include secondary influences from other regions, and some individuals from each region have their strongest affiliation with another nearby region.

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DNA Tribes™ World Regions



European:

- **Eastern European:** The Slavic speaking region of Eastern Europe.
- **Finno-Ugrian:** The Uralic speaking region of Northeastern Europe.
- **Mediterranean:** The Romance speaking region of Southern Europe.
- **Northwest European:** The Celtic and Germanic speaking region of Northwestern Europe.

Native American:

- **Arctic:** Inuit peoples of Alaska.
- **Amazonian:** The Amazon Rainforest.
- **Andean:** Western South America.
- **Athabaskan:** Athabaskan speaking peoples of western North America.
- **Central American:** Central America.
- **Mexican:** Native Mexicans.
- **Northeast Amerindian:** Native peoples of northeastern North America.
- **Salishan:** The American Pacific Northwest.
- **Mestizo ("mixed")** (not shown): Native Americans mixed with Europeans and Africans.

African and Near Eastern:

- **Arabian:** The Arabian Peninsula.
- **Asia Minor:** The Levant and Anatolia to the Iranian Plateau.
- **India:** The Indian Subcontinent.
- **India Tribal** (not shown): Tribal peoples of eastern India.
- **North African:** North Africa.
- **North India:** Northern India.
- **Southern African:** Southern Africa.
- **West African:** Coastal West Africa.

Asia/Pacific:

- **Australian:** Aboriginal peoples of Australia.
- **Chinese:** The Chinese region.
- **Japanese:** The Japanese Archipelago.
- **Malay Archipelago:** Island Southeast Asia.
- **Mongolian:** Altaic-speaking peoples of Central and North Asia.
- **Polynesian:** The Polynesian Islands.
- **Southeast Asian:** Mainland Southeast Asia.
- **Tibetan:** The Tibetan Plateau.

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Interpretation of Match Scores: As the example below illustrates, your analysis includes two scores for each ethnic group and world region: (1) your MLI score and (2) your TribeScore.



Above: Example of score presentation

MLI (Match Likelihood Index) Scores: listed next to the bar graph for each population, measure how common frequent your DNA profile is in that population as compared to the world overall. **MLI scores locate the ethnic groups and regions where your DNA profile is most common.** For instance, a score of 24.38 for Switzerland (*see example above*) would indicate your total combination of alleles is 24.38 times as common in Switzerland as in the world. All MLI scores can be compared against each other as **odds ratios**. For instance, if you obtain a score of 24.38 for Switzerland and 23.08 for Poland, this means your genetic profile is $24.38 / 23.08 = 1.05$ times as likely to be Swiss as it is to be Polish.

TribeScore: Each match also includes a TribeScore in parentheses, listing your MLI score's percentile in that population. **TribeScores compares your MLI scores to members of each ethnic group and world region.** For instance, results listing "Switzerland (0.73)" (*see example above*) would indicate that your MLI score is higher than 73% of scores from this Swiss reference population, and lower than 27% of these Swiss individuals. TribeScores between the (0.25) and (0.75) are ordinary for a population.

Conclusion: The genetic ancestry analysis below documents genetic ancestry that dates back thousands of years. The information in your report below can complement what you already know about yourself, your family, and your genealogy by putting your ancestry in a global perspective using molecular genetics.

Further Reading: Sample results with commentary on how results can be interpreted are available for several ethnic groups online at: <http://dnatribes.com/sampleresults.html>

Additional information about the autosomal STR markers listed in Part A of your report can be found online at: <http://www.cstl.nist.gov/biotech/strbase/>

A global survey using the DNA Tribes™ World Region algorithm can be found at: <http://dnatribes.com/sample-results/dnatribes-global-survey-regional-affinities.pdf>

Comprehensive reference works that compare global genetic variation with historical and linguistic data include: *The History and Geography of Human Genes* by L.L. Cavalli-Sforza and *Human Evolutionary Genetics* edited by M.A. Jobling. Introductory texts on the subject include *Genes, Peoples, and Languages* by L.L. Cavalli-Sforza.



Part A: Genetic Profile

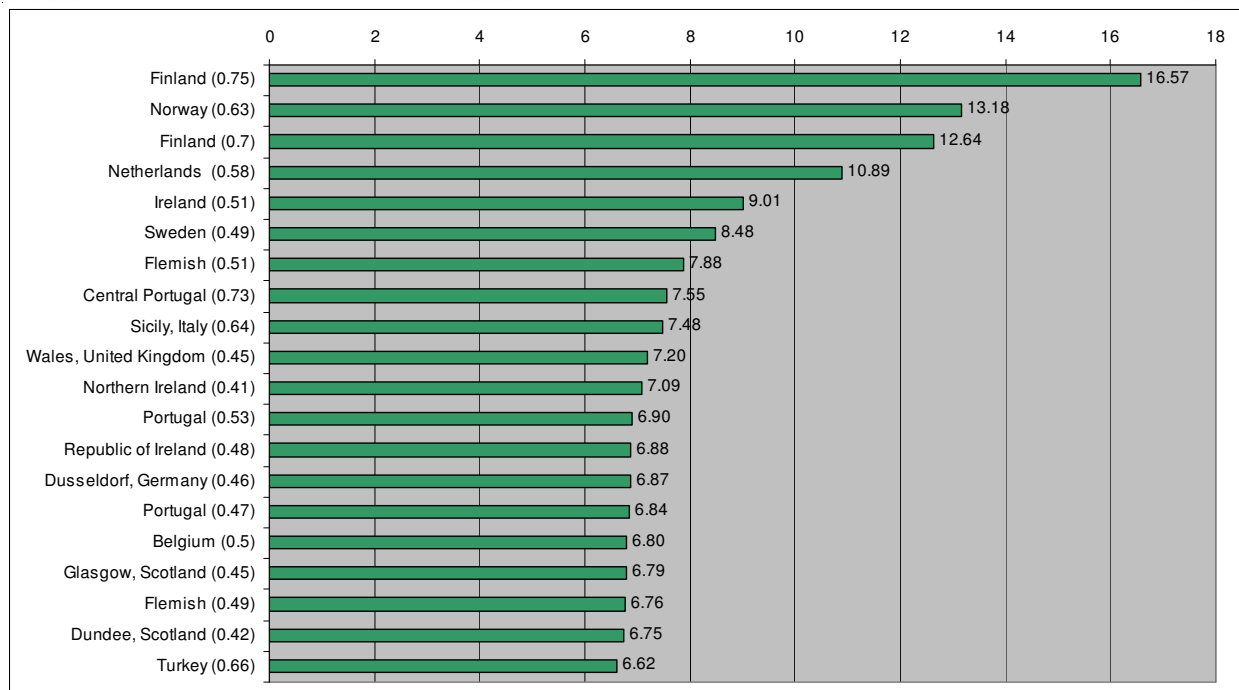
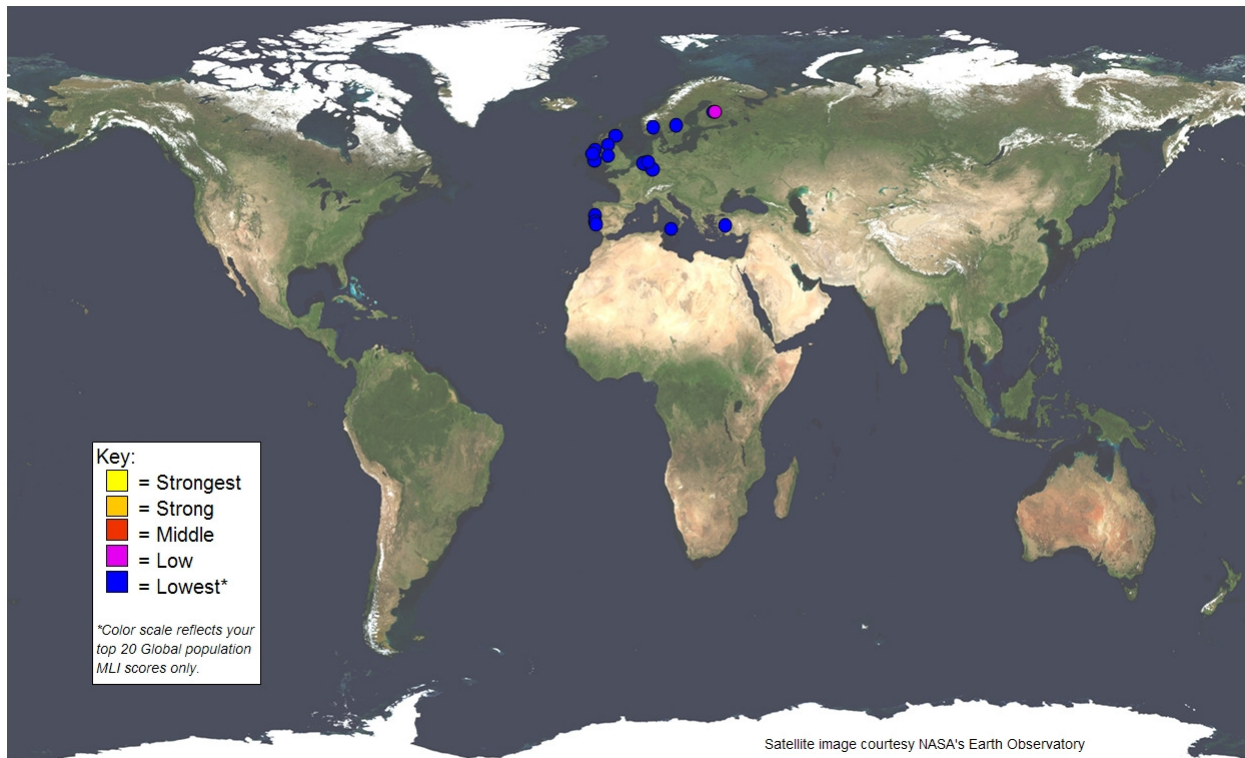
CONFIDENTIAL INFORMATION: Below is your unique genetic profile used to identify your geographical ancestry. Because this profile identifies you personally, DNA Tribes™ recommends that you treat the genetic profile on this page as strictly confidential information.

A reference to further information about these genetic markers is listed under Further Reading on Page 3 of this report.

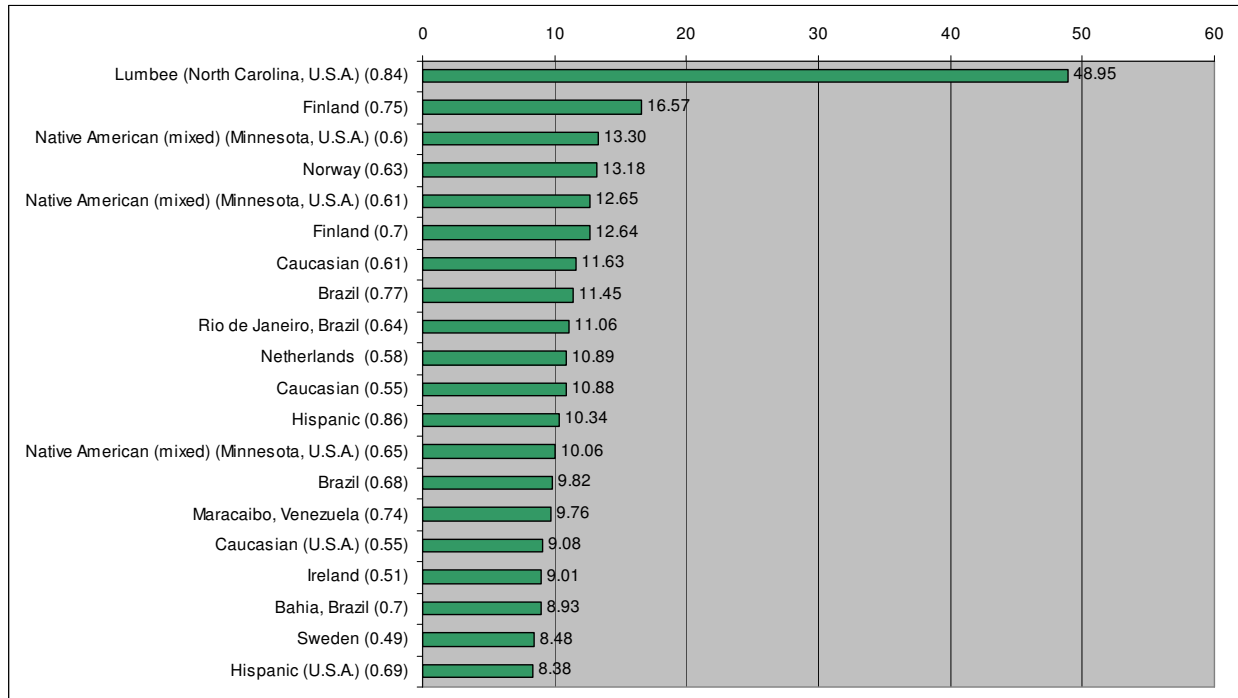
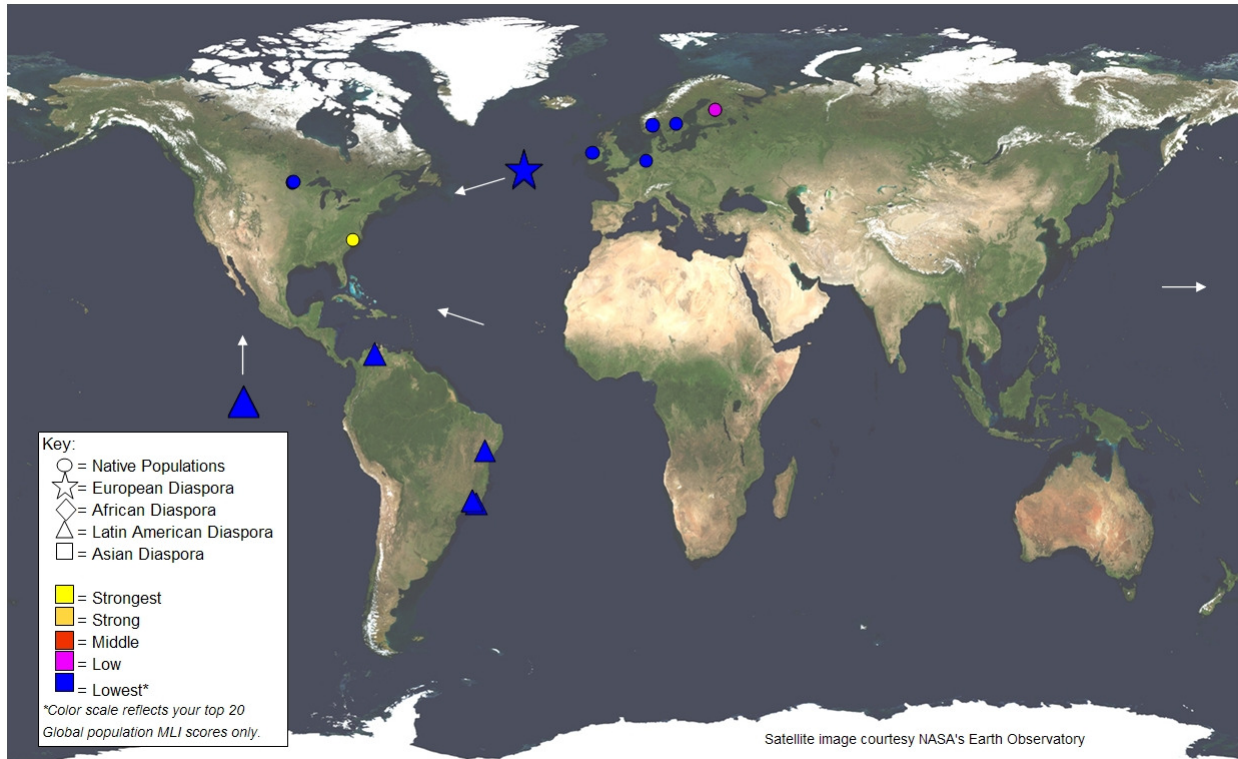
Autosomal STR Profile Example Lumbee Person (North Carolina, U.S.A.)

<i>Locus</i>	<i>Allele 1</i>	<i>Allele 2</i>
<i>Amel</i>	X	Y
<i>D3S1358</i>	15	16
<i>TH01</i>	7	9.3
<i>D21S11</i>	28	30
<i>D18S51</i>	12	17
<i>D5S818</i>	12	11
<i>D13S317</i>	11	12
<i>D7S820</i>	10	11
<i>D16S539</i>	11	12
<i>CSF1PO</i>	10	12
<i>vWA</i>	16	17
<i>D8S1179</i>	13	14
<i>TPOX</i>	8	11
<i>FGA</i>	22	23

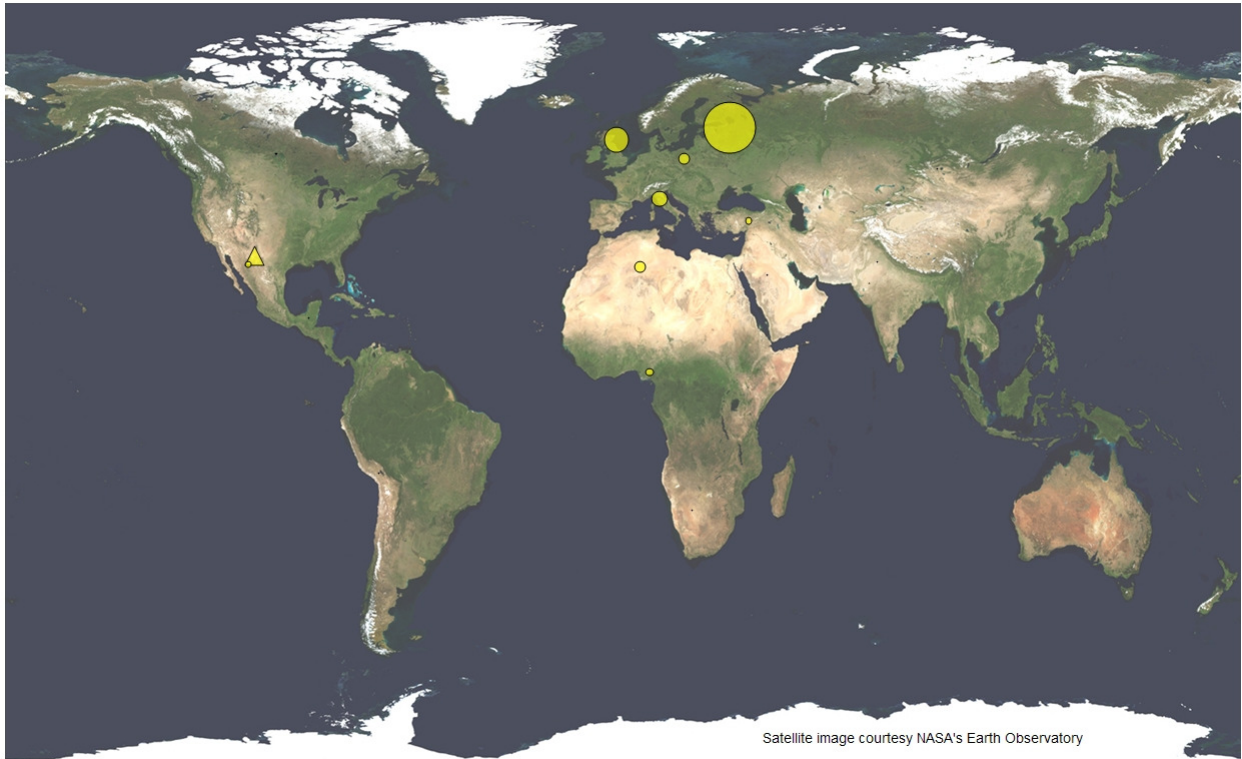
Part B: High Resolution Native Population Match



Part C: High Resolution Global Population Match



Part D: High Resolution World Region Match



Satellite image courtesy NASA's Earth Observatory

