April 9, 2020

Dear Ms. Jones,

This **Rare Genes from History Profile** completes your order **J9999.** Any population names or terms highlighted in your PDF are clickable. You can follow the links to get more information or an explanation.

Now that you know your Rare Genes Results you may wish to visit DNA Ancestor Communities. Here you can meet others from the same corner of the world, upload pictures, post family stories and genealogies and follow one or more discussions in several different forums, including World, Europe, Melungeon, Cherokee and Jewish. It's free, so join today!

We hope you enjoy your report for years to come and thank you for entrusting us with your DNA testing needs. Certificates are available for any result named in your report, along with a large selection of books to help you pursue your interests. Remember you have a 10% discount on any future orders with the code **dnaplus**. This discount never expires, and you can pass it on to family and friends.

We love reviews and referrals! Customer reviews are the lifeblood of a small, innovative company like ours. Here are some links for your convenience-

Or if you prefer, leave us a Google Review
or comment on our website https://dnaconsultants.com/testimonials/

Best Regards,

Sue

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DNA Consultants
Home of the DNA Fingerprint Test

Mary Jones
Rare Genes from History Profile

J9999 – xxxxxxx

Genetic systems known as autosomal markers were analyzed at our accredited testing laboratory, where testing revealed your unique DNA fingerprint or profile. Autosomal markers have a very low mutation rate and are handed down from generation to generation virtually unchanged (Butler). Twenty-six specific alleles in your profile— DNA motifs spread across your chromosomes—correlate with possible rare genetic history statistically more common in some populations than in others.

Technical Introduction

Since you receive one value or variation of genetic material from one parent and one from the other, you can have two rare markers, one or none. *It is not possible to say which parent you get a rare marker from*, and the fact that you do not have a rare marker does *not* mean that you lack that ancestry, as full siblings can get slightly different rare marker numbers and results. Similarly, your progeny may or may not have the same rare marker you possess in your genetic profile. By the same token, if your son or daughter has a rare marker it can only come from either you or the other parent.

Background and Significance

Over the past two decades, geneticists have worked out the macro-history and chronology of human migrations in astonishing detail. The Rare Genes from History Panel is another reminder—in the words of an American Indian ceremonial greeting— that "We Are All Related."

These rare but robust signals of deep history can act as powerful ancestral probes into the tangled past of the human race, as well as unique touchstones for the surprising stories of individuals.

Ethnic categories in which these genes fall are indicated by color as follows: **blue** for Eurasian, **black** for African, **red** for Native American or Asian. Click on the gene name for more information including a map of its distribution in the world.

Your Personal Rare Marker Results

Marker	Allele	Allele
Helen		
Scythian		
Kilimanjaro		
Thuya		
Akhenaten		
King Tut		
Egyptian		
Cochise		
First Peoples		
Lake Baikal		
Amerind	✓	
Khoisan		
Kongo		
Sinti -A		
Sinti -B		
Sinti -C		
Dream Time		
Sundaland		
Empire		
Shaman		
Rain Goddess	✓	
Aztlan		
Europa		
Mongol		
Circassian	✓	
Denisovan		
Yellow Emperor		
Mozambican		
Odin		
The Ancient One		
Crazy Horse		
Children of the Sun		
Marco Polo		
The Goddess		
People of the Steppes		

For more on the science behind this method of ancestry analysis, read "Rare Genes from History: New Autosomal Ancestry Markers from DNA Consultants."

Interpretive Analysis and Results

You received three rare alleles from either your mother or your father, known as the **Amerind, Rain Goddess,** and **Circassian** genes. You may order an Ancestry Certificate for one or more of these markers. You can place your order online or call us at 1-888-806-2588 between 10AM and 6PM Mountain time and we will assist you.

Susan Levin
Associate Investigator
DNA Consultants
April 9, 2020

Disclaimers

This Rare Genes from History Test is a probabilistic prediction of ancestry for personal knowledge only. It is a non-chain of custody form of testing and is not intended for legal or official purposes. Its results may or may not confirm expected ethnic composition, family history or genealogical determinations. Alone, it may not be used to prove identity, biological relationships, nationality, citizenship, immigration or tribal enrollment.

References and Suggestions for Further Reading

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Rare Genes from History: Signatures of the Past

Your DNA fingerprint reflects your entire ancestry, not just one male or one female line. More familiar tests target only one line, usually your father's father's father's male line, your surname-linked genealogy. Autosomal or non-sex-linked tests have the advantage of offering you a complete picture of your family tree. They are ideal for confirming small amounts of hidden ancestry like Native American or hard-to-research ancestors whose contribution to your genetic makeup may lie outside the strict patrilineal or matrilineal lines. On the other hand, a DNA fingerprint test cannot yield names and dates. Its value is better described as genetic than genealogical.

How Autosomal DNA Analysis Works

Your unique DNA fingerprint is the same forensic profile used in law enforcement and the criminal justice system and seen on TV shows like CSI.[1] It relies on distinct genetic systems known as autosomal markers. These locations are distributed throughout all your chromosomes (except for the sex chromosomes). Because of the way in which the equal DNA contributions from your mother and father recombine, autosomal

markers represent your total accumulated inheritance. This fact makes comparison of your DNA fingerprint an excellent means for studying population genetics and determining ancestry.

Locus	Alleles		Range
D8S1179	14	14	<9 - >17
D21S11	30	30	<24.2 - >36
D7S820	13	10	6 - >14
CSFIPO	11	11	<6 – 15
D3S1358	17	17	<12 - >19
THO1	6	9.3	<5 - >10
D13S317	9	13	<8 - >15
D16S539	11	9	<8 – 15
D2S1338	17	24	15 - 28
D19S433	13	12	9 - 18.2
VWA	18	14	11 - >22
TPOX	9	10	<6 - >13
D18S51	12	14	<11 - >22
D5S818	12	12	<7 - >15
FGA	23	23.2	<18 - >30

SAMPLE PROFILE. On each locus (row) you get two alleles or variant values, one from your mother and one from your father (who both have two each from *their* parents*)*. On the face of it, we cannot say which allele comes from which parent. Siblings may get slightly different results. Green shows core CoDIS population data, yellow extended and blue two additional markers used in Europe.

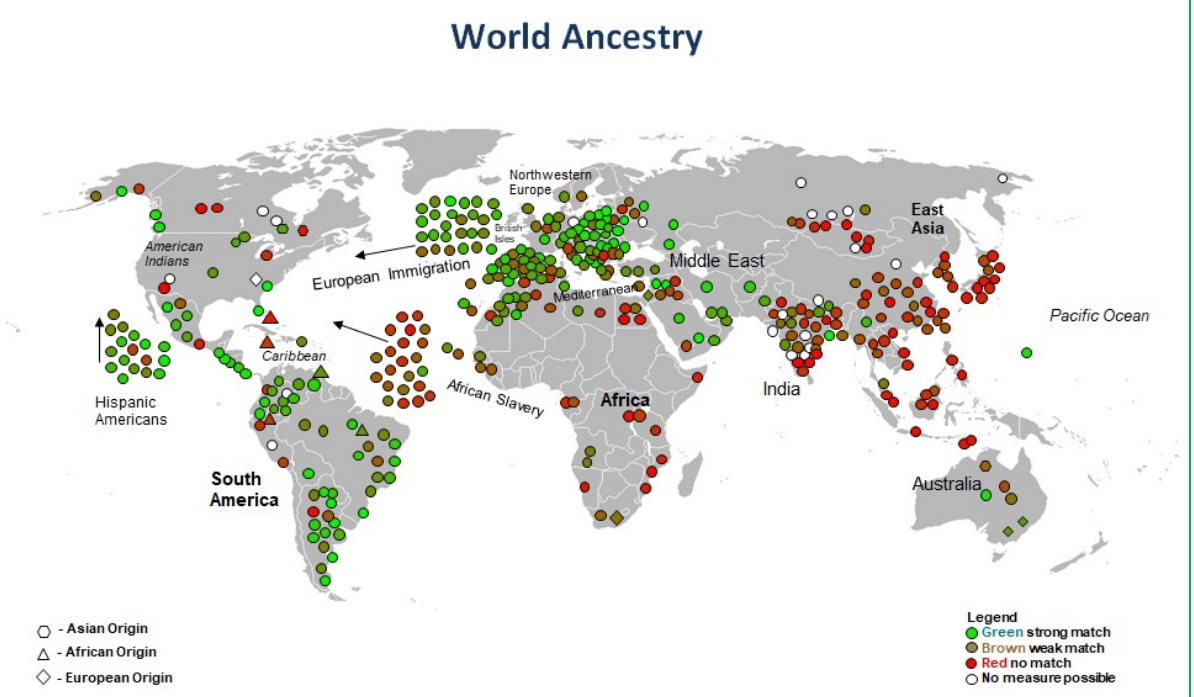
What a Match Means

Most personal DNA profiles have a likelihood of 1 in one trillion of occurring in another randomly sampled individual. If populations are considered rather than individuals, your unique DNA fingerprint has a stated mathematical probability of being present in any given population. This statistic is termed random match probability (RMP). Your profile may be relatively common in one population (say among Portuguese people) and relatively uncommon in others (say in Scandinavian populations). By searching population databases, we can determine the primary populations ("matches") in which your profile is likely to have arisen in high frequency over the past few centuries. From these matches we can infer geographical places of origin within a meaningful (historical) time depth. You can find out if you have Portuguese or American Indian or other types of ancestry.

Humans emerged from Africa about 100,000 years ago, took the coastal route to India and branched out from Asian highlands. Later, the Near East served as an interchange point between Africa and Eurasia.

Mummies and Mutations

In 2009-2010, an analysis of 11 royal mummies from around 1300 BCE was carried out by an Egyptian team under the country's chief archeologist Zahi Hawass. A television special was produced, titled "Unwrapping King Tut." Hawass and his colleagues published "Ancestry and Pathology in King Tutankhamun's Family," in *JAMA*, vol. 303, no. 7. (Feb. 17, 2010). The Rare Genes from History Panel released in October 2012 by DNA Consultants included four markers from these Amarna mummies. Also included among the new ancestry-informative markers were the Helen, King Tut, Akhenaten, Egyptian, Sinti (Gypsy), First Peoples, Dream Time, Rain Goddess, Yellow Emperor and other genes from world history. The mutation rate of STRs at their basis is so low as to be negligible; in other words, they remain unchanged for thousands of years, migrating with human populations around the world, expanding their occurrence in some regions and shrinking or dying out in others.



WORLD ancestry map shows strong matches in bright red, somewhat strong in brown, weak in orange, and non-matches in yellow. The patterns and clusters here are typical of a European American with some American Indian admixture (dots in North America).

Helen	*Scythian*	*Kilimanjaro*	*Thuya*
Akhenaten	*King Tut*	*Egyptian*	*Cochise*
First Peoples	*Lake Baikal*	*Amerind*	*Khoisan*
Kongo	*Sinti*	*Dream Time*	*Sundaland*
Empire	*Shaman*	*Rain Goddess*	*Aztlan*
Europa	*Mongol*	*Circassian*	*Denisovan*
Yellow Emperor	*Mozambican*	*Odin*	*The Ancient One*
Crazy Horse	*Children of the Sun*	*Marco Polo*	*The Goddess Gene*
People of the Steppes			

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