



July 16, 2015

Dear Mr. Hamilton,

Congratulations on being one of the first people in history to commission a personal autosomal ancestry test!

As you can see, the results of your DNA test show without any doubt whatever that you have one or more Jewish ethnicity markers and match ancestral Jewish populations. You can feel proud to be part of a thrilling groundswell of breakthroughs in Jewish genetics that have just been released in scientific journals and have only now become available to the public. DNA Consultants pioneered both the DNA Fingerprint Test and—in Summer 2010—the Jewish DNA Ancestry Test. If you have the marker, you have the ancestry. It's that simple!

Your [Jewish DNA Fingerprint Plus](#) in fact shows all your ancestry, Jewish and non-Jewish, including the top countries of Europe and tribes of North America and Africa where you have ancestry. It represents the state of the science in autosomal DNA ancestry analysis.

Click on the technical terms hyperlinked in a blue color in the document to receive more information, including explanations and audio files with the pronunciation of unfamiliar words. Check out the list of [references and popular books](#) to aid you in understanding your report. You can also call or email us to help you understand your results. Remember, getting your results is just the beginning of a lifelong learning process. The state of autosomal DNA science is constantly progressing!

We extend to you a special invitation to join the Jewish Forum at [DNACommunities.com](#). Get recommendations on websites and publications about Jewish identity and the rich history of Jews. Meet others who might be exploring their Judaic roots for the first time. Your subscription to this valuable service is 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.

Best regards,

A handwritten signature in blue ink that reads "Donald N. Yates".

Donald N. Yates, Ph.D.

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John Leslie Jewish DNA Fingerprint Plus 18 Marker Ethnic Panel

L8137 - #82592302

Genetic systems known as **autosomal markers** were analyzed at DNA Diagnostics Center. Testing revealed a unique **DNA fingerprint** or **profile**. The table below shows you how your personal DNA Fingerprint looks. The numbers reflect your genetic inheritance from all previous generations and can suggest statistical matches for your overall ancestry or mix of lines.

Your Lab Results

Locus	Alleles		Range
D8S1179	14	13	<9 - >17
D21S11	29	30	<24.2 - >36
D7S820	10	8	6 - >14
CSFIPO	7	11	<6 - 15
D3S1358	16	17	<12 - >19
THO1	7	8	<5 - >10
D13S317	12	12	<8 - >15
D16S539	10	13	<8 - 15
D2S1338	20	25	15 - 28
D19S433	14	15	9 - 18.2
VWA	15	19	11 - >22
TPOX	8	8	<6 - >13
D18S51	14	13	<11 - >22
D5S818	12	13	<7 - >15
FGA	23	21	<18 - >30

The scores shown in green and yellow known as **CODIS** markers were compared with profile frequencies for 450 populations from around the world stored in our computer program atDNA 7.0. The following populations—though not in strict order of importance—proved to be the leading matches for you on a multi-locus basis:

Rank World Population Matches

- 1 Moroccan Berber - Bouhria (n = 104)
- 2 Libyan (n = 103)
- 3 Italian (n = 223)
- 4 Iraqi (n = 103)
- 5 India - Tanjore Kallar (n = 101)
- 6 India - Northeastern - Bihar - Bhumihar Brahmin (n = 65)
- 7 Yemenite - Sanana (n = 100)
- 8 Greek (n = 143)
- 9 Romanian - Transylvanian - Csango (n = 220)
- 10 Brazilian - Cape Verde (n = 120)
- 11 Italian - Piedmont (n = 147)
- 12 Iberian Peninsula - Catalans (n = 50)
- 13 Saudi Arabian (n = 73)
- 14 Arabs (Palestinian and related) (n = 100)
- 15 Arab - Damascus, Syria (n = 100)
- 16 Greek - Northern (n = 318)
- 17 Melungeon (n = 40)
- 18 Albanian - Kosovo (n = 136)
- 19 Belgian (n = 100)
- 20 Turkish (n = 310)
- 21 Greek (n = 205)
- 22 Moroccan Berbers (n = 64)
- 23 Italian (n = 441)
- 24 Italian (n = 1,541)
- 25 Malaysian - Indian (n = 209)
- 26 Turkish (n = 198)
- 27 Yemeni (n = 101)
- 28 North African - Maghreb (n = 59)
- 29 Puerto Rican - Massachusetts (n = 205)
- 30 Greek Cypriot (n = 1475)
- 31 Saharawis (n = 59)
- 32 Portuguese - Madeira (n = 100)
- 33 Swedish (n = 311)
- 34 Portuguese - White (n = 146)
- 35 Moroccan Berbers (n = 50)
- 36 Arab - Moroccan (n = 138)
- 37 Italian - Tuscany (n = 188)
- 38 Malta (n = 157)
- 39 Egyptian Muslims - Adaima (n = 99)
- 40 Turkish (n = 500)
- 41 White - Canadian (n = 293)
- 42 South African - European - Capetown (n = 98)
- 43 Belgian - Flemish (n = 231)
- 44 Macedonian (n = 100)
- 45 Namibia - Windhoek (n = 195)
- 46 Spanish - Majorcan (n = 103)
- 47 Bavarian (n = 155)
- 48 Tunisian (n = 196)
- 49 Sicilian (n = 220)
- 50 Moroccan (n = 205)

Your matches are also shown on the attached ancestry map. **Green** stands for locations of strongest probable genetic origins, **red** likely absence of ancestry, and **brown** weak or ambiguous contributions of ancestry. Blank dots indicate No Comparison Possible. The time frame is historical, not pre-historical.

According to recent research in population genetics, genes mirror the geography of Europe. Modern-day European subpopulations correspond roughly to national and linguistic boundaries (Lao et al. 2008). An additional search was made for high Random Match Probabilities in the [Strbase](#) of [ENFSI](#), covering 35 countries. By a calculation restricted to European data, the top ten country matches are:

Rank	European Population Matches
1	Finland (n = 230)
2	Netherlands (n = 231)
3	Scotland - Highlands (n = 228)
4	Croatia (n = 200)
5	Estonia (n = 150)
6	Belgium (n = 206)
7	England/Wales (n = 437)
8	Belgium - Flemish (n = 231)
9	Italy (n=209)
10	Germany (n = 662)

Megapopulations: the Bottom Line

These are the **Top Ten broadest possible categories** for your relative mix of ethnicities. "1 in 1 trillion" is the random probable match or chance of occurrence for your unique DNA profile or fingerprint. The lower the number the greater the match and more likely it is you have ancestry in that population.

<u>Mega Population</u>	<u>Frequency</u>
Meluncheon	1 in 9 billion
Middle Eastern	1 in 13 billion
Mediterranean European	1 in 14 billion
Jewish	1 in 15 billion
Northern European	1 in 20 billion
European American	1 in 26 billion
Iberian	1 in 27 billion
African American	1 in 30 billion
Central European	1 in 37 billion
South Asian	1 in 47 billion

18 Marker Ethnic Panel

These eighteen markers correlate at a rate of 80% with probable ethnic ancestry as indicated. They reflect major human migrations as depicted on the following map. Since you receive one allele (unit of human variation) from one parent and one from the other, you can potentially have two markers, one or none. It is not possible to say which parent you get a marker from in any instance, and the fact that you do not have a marker does *not* mean that you lack that ancestry. Due to the nature of autosomal DNA, one sibling can get a marker and another could miss getting it.

Marker	Allele	Allele
NATIVE AMERICAN I		
NATIVE AMERICAN II	✓	✓
EUROPEAN I		
EUROPEAN II	✓	
EASTERN EUROPEAN I		
EASTERN EUROPEAN II	✓	✓
JEWISH I	✓	
JEWISH II		
JEWISH III	✓	
JEWISH IV		
ASIAN I		
ASIAN II		
ASIAN III		
ASIAN IV		
SUB-SAHARAN AFRICAN I		
SUB-SAHARAN AFRICAN II	✓	✓
SUB-SAHARAN AFRICAN III	✓	
SUB-SAHARAN AFRICAN IV	✓	

Analysis and Conclusion

Our worldwide and European approaches are combined in the following analysis. Profile frequencies suggest your principal ancestral lines—not necessarily in strict order of importance—are:

European, perhaps chiefly Scottish, English/Welsh, German, Italian, Belgian, Dutch, Greek, Romanian, Spanish/Portuguese, Albanian, Estonian and Finnish (3, 8-9, 11-12, 16, 18-19, megapopulations, markers, EURO, map) with [American Indian](#) (markers, map) and [Sub-Saharan African](#) (45, 48, megapopulations, map) [admixture](#). There is also Jewish (46, markers, megapopulations), Melungeon (17, megapopulations), Middle Eastern (1-2, 4, 7, 13-15, megapopulations, map) and South African- European Capetown (42, green diamond in South Africa).

Tribal affiliations cannot always be determined from the Native American matches, as types of Native American DNA are distributed all across the Americas. Some, moreover, may be deep, shared ancestry. However, you matched the tribal region of [Native American Florida](#) (map only). Some of the Iberian matches can probably be attributed to deep ancestry, as it is believed that Iberians on the Atlantic Coast such as the Basques and Portuguese were the leading colonizers of the British Isles following the last Ice Age (Oppenheimer). The Sub-Saharan matches and markers, if unknown, may in part be attributed to your match to Iberian (Spanish/Portuguese) which has a high admixture of Sub-Saharan African, as well as to deep ancestry as scientists believe we all come from Africa. Some older populations, like Jewish, also tend to reflect this deep ancestral marker as well. Asian is a common deep ancestral match or marker for anyone that has any American Indian ancestry and, unless known, is most likely not relevant to modern times. Middle Eastern can be a common deep ancestral match for anyone that has Melungeon ancestry. Many Melungeons also have Sephardic Jewish ancestry according to Dr. Yates' research studies. You received one marker each for Jewish I and Jewish III ([Sephardic](#) or Mediterranean Jewish). If you receive one marker, it is from either your mother's or father's side, but the test has no capability of telling which one.

There appears to be no [East Asian](#) , [Australoid](#) or [Sub-Continental Indian](#), any apparent matches being due to accidental [convergence](#) or deep history.

Remember: results do not equal percentages. They show only that your profile, on the face of it, is most common in present-day European, Jewish, Melungeon, American Indian and other populations. These unique genetic [polymorphisms](#) may or may not be reflected in your individual physical appearance. Nonetheless, they can be expected to be associated with certain recognizable family traits. You may order an [Ancestry Certificate](#) for one or more of these ancestries. We suggest also that you add [Rare Genes from History](#) to obtain the maximum information about your autosomal ancestry.

Teresa P. Yates

Vice President of Communications

[DNA Consultants](#)

July 16, 2015

Key to Ethnic Groups

NATIVE AMERICAN I. This marker is inherited by an individual who has some degree of Native American ancestry. Often it comes from only one parent. As with other markers, if you didn't get it, that does not mean you don't have any Native American ancestry. Pairs of markers ([alleles](#)) are reshuffled from generation to generation, and it could have been lost. You may have it, but a sibling might not. By "Native American" is meant any of the indigenous groups who lived in either North or South America before Columbus. It is the same designation as [American Indian](#). Native American DNA is so distinctive that this test can detect even small amounts of it because of multigenerational interbreeding and effective conservation of admixture markers. But despite what you may have heard, no DNA test can definitively

tell you what percentage of admixture you have. *Studies show about 80% of modern-day North and South American indigenous peoples have at least one of these markers.* NA I is strong throughout the Americas, from Apaches and Algonquian Indians to Mexican and Peruvian Indians.

NATIVE AMERICAN II. Similar to Native American I but found typically in people who are half or less Native American and about half Iberian with sometimes a lesser amount of Sub-Saharan African, i.e., Hispanic or Latino.

EUROPEAN markers are located on two different **chromosomes** and relate to prehistoric human migrations in **Eurasia**. Certain readings on these two sites are nearly specific to European populations, including European emigrants to North and South America. **Europe** embraces, north to south, Scandinavia, Spain, Italy and Greece, and west to east, the British Isles, Poland and that part of Russia west of the Ural Mountains. Both **EUROPEAN markers** were carried westward by proto-Europeans approximately 40,000 years ago after they split off from an earlier stock from which Asians and Native Americans are also descended.

EUROPEAN I is a **Mediterranean** marker. If you have it, your ancestors passed down to you a genetic heritage emphasizing the South of Europe, populated by the oldest Europeans. The frequency of this marker decreases as we go north. Conversely, **EUROPEAN II** is more common in the Atlantic-facing countries of the British Isles and Northern Europe, particularly Northwest Europe.

EASTERN EUROPEAN. These are two markers, each diagnostic of Eastern European ancestry in your family tree. They are most common in Swedes, Poles, Lithuanians, Belarusians, Latvians, Ukrainians and Russians. They are found frequently also in **Ashkenazi Jews**. Except for Sweden, all the matching countries are predominately **Slavic** in their demography and culture.

JEWISH. These markers do not *necessarily* point to Jewish ancestry but can also signal ancestry in any of the places where Jews historically lived due to Jews' admixture with local populations, conversion, identity loss and the phenomenon of crypto-Judaism. *Still, statistics show that over 80% of modern-day Jews have one or more markers.* They are sensitive for both major branches of Judaism, Ashkenazi and **Sephardic**, or Spanish, Jews. Ashkenazi Jews ("German," in Hebrew) started out in the Rhineland and northern France following the collapse of the Roman Empire. During the Age of Charlemagne around 800 they began to settle eastward as the lands of the Central and Eastern European Slavs were conquered by the Franks and Germans. There they met the Turkic Khazar people moving in from the Caucasus region. They reached a high point in their development in seventeenth-century Poland, Lithuania, Silesia, the Ukraine, Russia and Romania. During Germany's Third Reich, six million or more of them were killed in the Holocaust. In contemporary times, they represent perhaps the best-known face of Judaism, accounting for about 80% of American and Israeli Jews. Because they trace back to a small nucleus (founder effect or bottleneaking) which kept expanding while preserving the same gene pool (genetic drift), Ashkenazi Jews have very recognizable genetic traits. They are subject to a range of hereditary disorders such as Tay-Sachs disease. As in the case of other markers, Jewish I, II and III are not completely conclusive in showing ancestry, nor do they tell you how much you may have or where in your genealogies it may stem from.

JEWISH I. This is the most common of the three markers. It can occur without known Jewish ancestry for a variety of reasons including an ancestor's conversion to Christianity during the centuries of persecutions against Jews in Europe. Its frequency is highest in Poles, Russians, Germans, Hungarians, Romanians and Slavic peoples who intermarried with Ashkenazi Jews. It also appears in Spanish, Portuguese and Moroccan Jews (**Sephardim**).

JEWISH II. This marker is the strongest. It is found in Jewish families who have intermarried with other Jews down through the centuries. It is characteristic of Ashkenazi Jews.

JEWISH III. This marker is an indication of Middle Eastern roots. Preserved by Jews, it is also borne by Kurds, Syrians, Arabs, Berbers, Basques, Turks, Greeks, Italians and other populations from the ancient world. It is particularly common in Sephardic Jews.

JEWISH IV. A marker indicative of Tatar or Khazar heritage. Khazars were a Central Asian people of Turkic, Hunnish and Iranian elements that arose in the Caucasus region. After converting to Judaism in the early Middle Ages, they moved westward into Russia and the Ukraine under

pressure from Islam, eventually becoming a large component of Eastern and Central European Jewry. Many Ashkenazi Jews now find they have some Khazar (or intermingled Tatar) ancestry.

ASIAN I, II, III, IV. In the context of DNA Fingerprint Plus, Asia consists of China, Siberia, Mongolia, Korea, Japan and other islands around the China Sea, as well as **India**, Southeast Asia and Australia. Asian I is centered in North China, Asian II in India and Asian III and IV in Southeast Asia.

SUB-SAHARAN AFRICAN (Black). Humans are believed to have lived originally in Africa. All non-African peoples are thought to have left that continent in a single small group about 80,000 years ago, developing into the proto-Arab, Indian, **Southeast Asian**, Australoid, East Asian, European and Native American ethnic groups. **Sub-Saharan Africa** (below the Sahara Desert) excludes North Africa, which is considered Caucasian (White) and customarily grouped with the **Middle East**. Between the sixteenth and nineteenth centuries, about 15 million Africans were transported to the New World as slaves, primarily from West Africa, Angola and Mozambique. Their descendants are the African Americans, among others. African ancestry is not uncommon in Portuguese, Sicilian and Middle Eastern people. SSA I follows the out-of-Africa trail of early Eurasians through Arabia and South India and occurs at its highest frequency in the Horn of Africa. SSA II originates apparently in Southwest Africa, is deep seated and includes West Africans, Romani, Melungeons, Basques and Levantine peoples. SSA III is another deep seated marker from the interior of the African continent. It is very rarely found in Asian peoples. SSA IV includes Berbers and African Americans and is also found in Greeks, Egyptians, Italians and other Mediterranean peoples.

References and Suggestions for Further Reading

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Glossary of Terms Used in This Report: <http://dnaconsultants.com/glossary>.

Understanding Your Results (FAQs): <http://dnaconsultants.com/DNAScience#testfaq>.

Statement on Ethnicity. Allelic population analysis is a science still in the early stages of development. As our understanding of human history and prehistory improves and more specific markers are discovered for distinct populations we can expect the accuracy of prediction of the ethnic constituents in our ancestry to increase. Here are some links to common ancestries mentioned in this report.

[Albanian](#) [Arab](#) [Ashkenazi](#) [Austrian](#) [Belgian](#) [British](#) [Croatian](#) [Czech/Slovak](#) [Danish](#) [Dutch](#) [English](#) [Europeans](#) [French](#) [German](#) [Greek](#) [Hungarian](#) [Irish \(included in British\)](#) [Italian](#) [Jews](#) [Middle Eastern](#) [Moroccan](#) [Norwegian](#) [Polish](#) [Romani/Gypsy](#) [Russian](#) [Scottish](#) [Sephardic](#) [Slovenian](#) [South Slavic](#) [Spanish/Portuguese](#) [Swedish](#) [Swiss](#) [Tunisian](#) [Turkish](#) [Welsh](#)

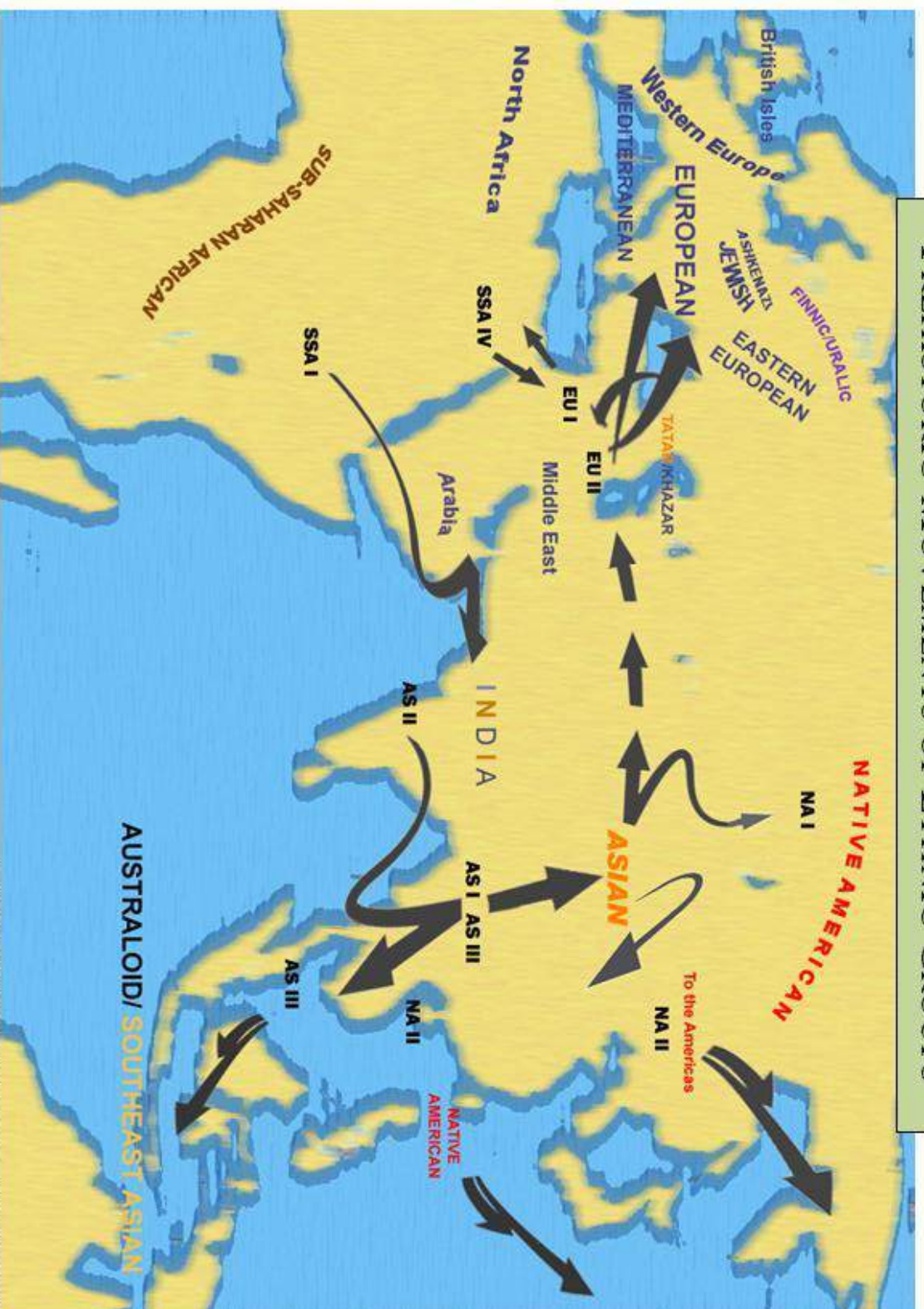
Reliability. While the laboratory methods used to determine your DNA markers are completely accurate and their statistical analysis is reliable, interpretation of the numerical results is subjective. Conclusions will vary. To form more confident opinions, we suggest that you combine the findings in this report with other testimony, such as that of DNA haplotypes, genealogical records and family history.

Confidentiality. Your testing, results and this report are 100% confidential.

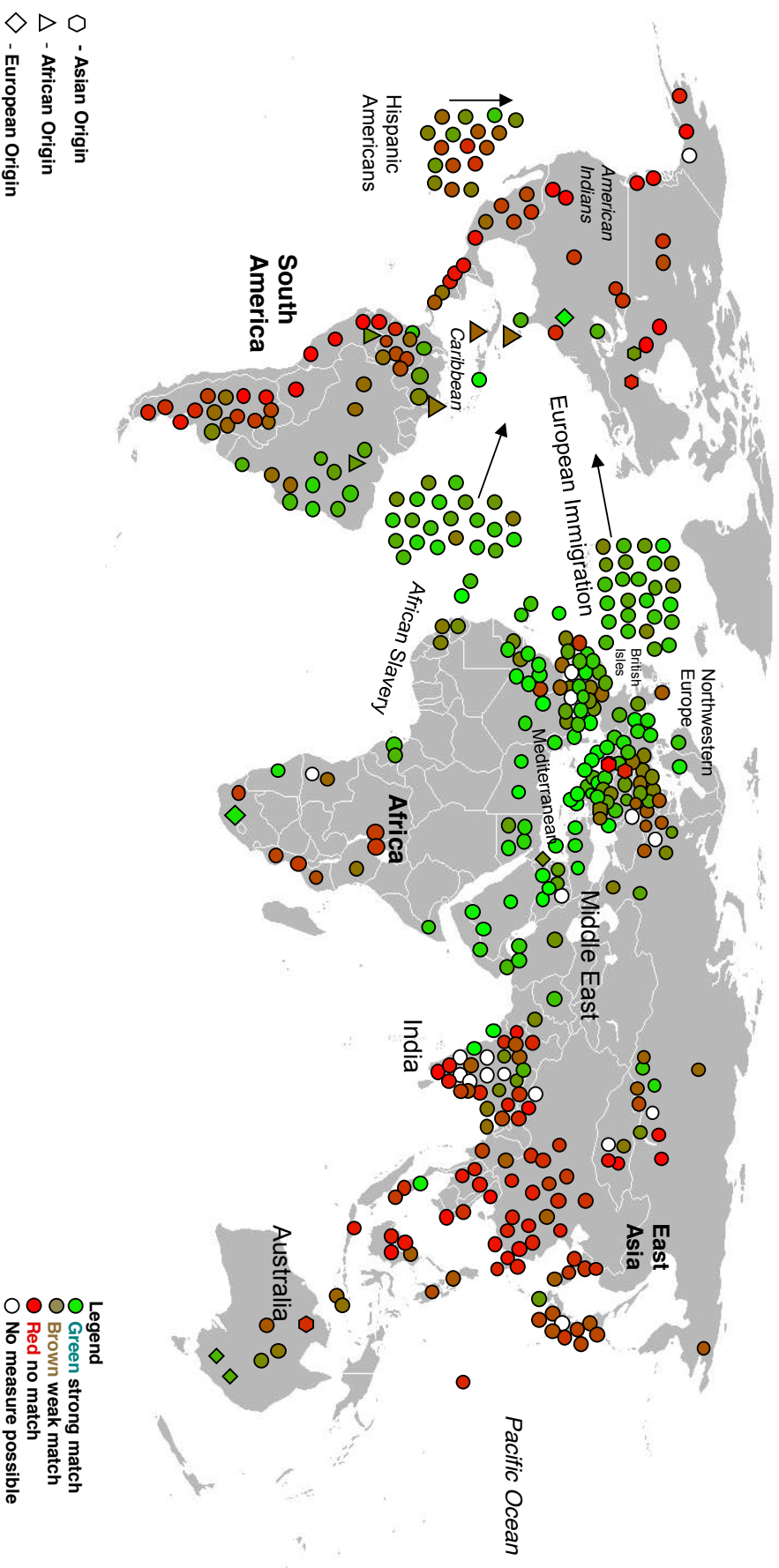
Preservation. Have you preserved your DNA? Purchase our economical [DNA Archiving Pack](#) and enjoy a new sense of security. It's easy to do and you can store your DNA in a safe place at home.

Following Up. Join a Forum at [DNA Communities](#) for free. Just follow the prompts to register and set your preferences. Begin exploring your results and sharing your genealogy with others. Choose from European, World, Native American, Melungeon, African, Jewish and Gypsy/Roma discussions. Visit our [blog](#) for interesting reviews of news and research about genetics and ancestry tracing. Also, check out the populations where your ancestors originated on [Population Pages](#)

PREHISTORIC MOVEMENTS OF ETHNIC GROUPS



World Ancestry of John Leslie





THIS DOCUMENT CERTIFIES THAT

John Leslie

**Ordered a Jewish DNA Fingerprint Test Showing One or More Matches to
Ancestral Jewish Populations**

A handwritten signature in blue ink that reads "Ronald N. Yates".

Principal Investigator, DNA Consultants, P.O. Box 2477, Longmont, CO 80502



July 16, 2015