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NHLS Practice Number: 5200296

GENETIC ANCESTRY TESTING REPORT

NAME: Johannes Retief

SEX: Male

MtDNA analysis

MtDNA HVRI variation: 16129G-A, 16519T-C

MtDNA HVRII variation: 93A-G, 263A-G

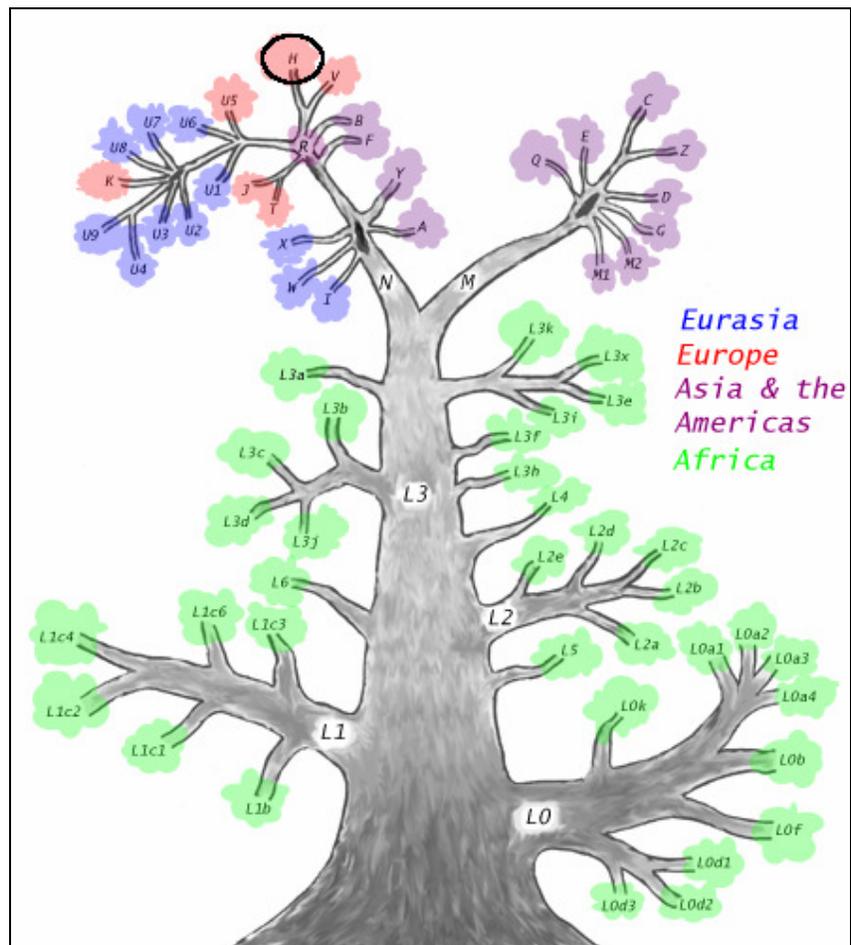
MtDNA haplogroup: H

MtDNA matches: When we compared your mtDNA profile with about 10,600 mtDNA haplotypes from 2 international databases, we found 23 identical matches in 7 Caucasian Americans, 6 Basques, 4 Icelanders, 2 Caucasians from the United Kingdom, 1 Hebridean individual, 1 Turkish individual, 1 Sardinian individual and 1 Chinese individual (Metspalu *et al.* 2004, <http://www.bioanth.cam.ac.uk/mtDNA/>). A search in our database yielded 17 identical matches in 10 South African Whites, 4 British Caucasians, 1 South African Jewish individual, a Canadian individual and a White individual from Zambia.

Haplogroup information

It is possible for us to reconstruct the evolutionary history of all mtDNA lineages found in living peoples to a common ancestor, sometimes referred to in the popular press as “Mitochondrial Eve”. This ancestor lived in Africa,

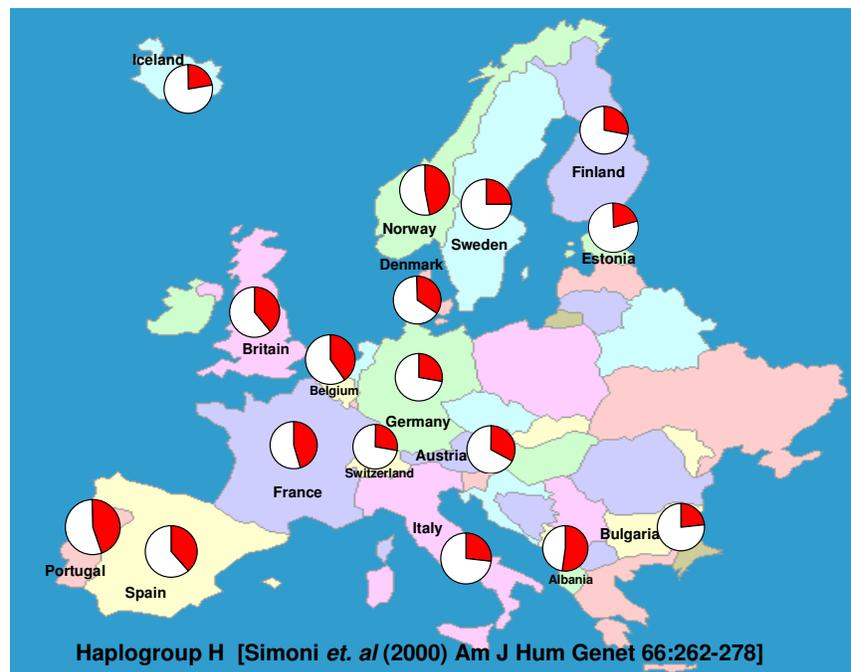
about 150,000 years ago. She lies at the root of all the maternal ancestries of every one of the six billion people in the world. We are all her direct maternal descendants. The various “patterns” of mtDNA sequence variation found in living people are referred to as “haplogroups” that are defined by the presence of certain changes (mutations) when compared to a published sequence referred to as the reference sequence. These mutations are random and not associated with any disease. These haplogroups, or branches, are represented in the tree below, and your branch is indicated within the ring.



Your mtDNA profile is consistent with a European ancestry. Bryan Sykes (2001) at Oxford University introduced names to personalize the mtDNA types found among people of European origin and referred to the seven common haplogroups (U, X, H, V, T, K and J) as the “Seven Daughters of Eve”. These seven women have been given the names Ursula (Latin for “she-bear”), Xenia

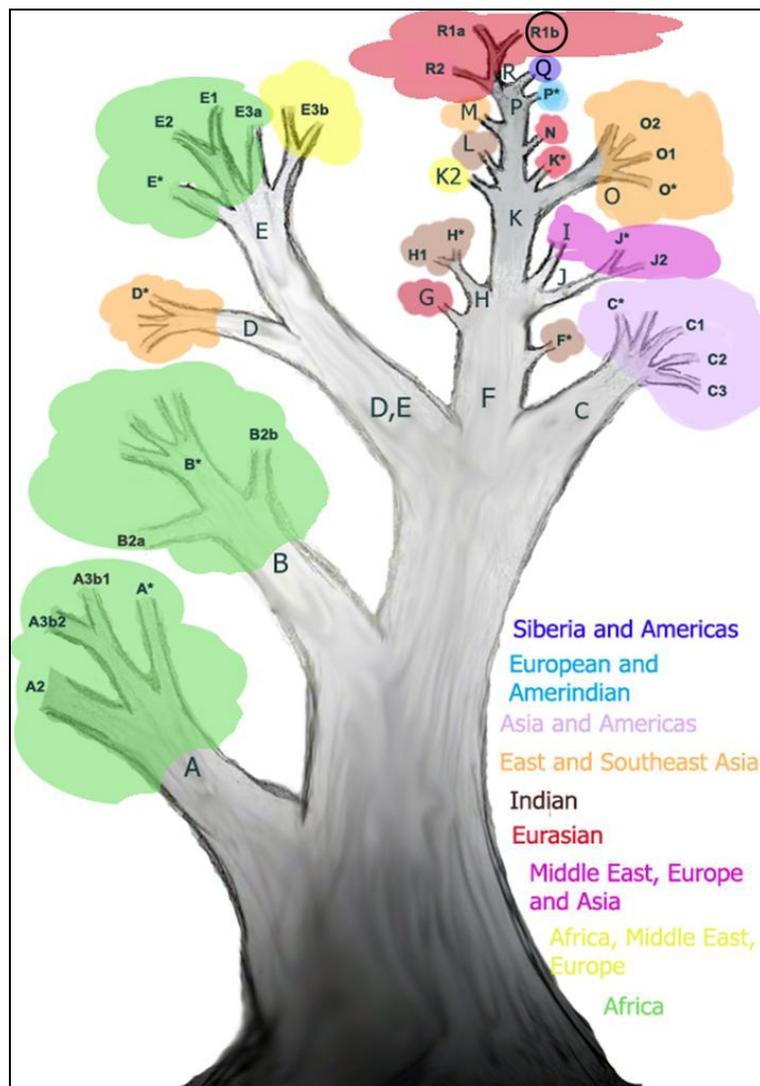
(Greek for “hospitable”), Helena (Greek for “light”), Velda (Scandinavian for “ruler”), Tara (Gaelic for “rock”), Katrine (Greek for “pure”) and Jasmine (Persian for “flower”). The first letter of the name corresponds to the haplogroup designation.

Today, about forty-seven percent of native Europeans belong to the clan “Helena”. Helena’s descendants are the most numerous in Europe having started 20,000 years ago from a hunting family in the Dordogne region of southwest France. The reference sequence with which all mitochondrial mutations are compared is Helena’s sequence. Haplogroup H is found at a frequency of ~ 38% in South African Whites.



Y chromosome analysis

Two kinds of Y chromosome data were used to resolve your Y chromosome lineage. The first involved screening for certain mutations to elucidate the Y chromosome *haplogroup* (groups of lineages that are identical by descent since they share a common defining mutation). The second involved the use of faster evolving DNA called short tandem repeats (STRs) that we use to further resolve the haplogroup. By screening for several of these STR markers it is possible to derive a *haplotype*, a combination of the patterns observed for each region on the Y chromosome tested. The haplogroups, or branches, are represented in the tree below, and your branch is indicated within the ring.



Y chromosome haplogroup: R-M343 (R1b)

Haplogroup information:

Haplogroup R-M343 is the most common haplogroup in European populations. It is believed to have expanded throughout Europe as humans re-colonized after the last glacial maximum, 10 to 12 thousand years ago. This lineage is also the haplogroup containing the Atlantic Modal haplotype. R-M343 has a frequency of about 72% in British, 65% in the Orkney Islands (Wells *et al.* 2001), 70.4% in Dutch, 52.2% in French and 50% in Germans (Semino *et al.* 2000). In Asia, R-M343 is much less common, occurring sporadically in a number of populations. The frequency of R-M343 is about 65% in South African Whites.

STR profile:

Marker	DYS19	DYS389I	DYS389II	DYS390	DYS391	DYS393
Profile	14	13	30	24	10	14
Range	10-19	9-17	24-35	12-29	6-15	7-17

Marker	DYS438	DYS439
Profile	12	12
Range	8-12	8-15

STR Matches:

We compared your Y chromosome STR profile with about 69,500 Y chromosome haplotypes from a STR database (<http://www.yhrd.org/>). When using all eight markers (both tables above) we found 16 identical matches in 11 Europeans, 3 North Americans, 1 Brazilian individual and 1 Australian individual.

A search in our database using all eight markers (both tables above) yielded 1 match in a South African White individual.

References

Metspalu *et al.* (2004) BMC Genetics 5:26

Semino *et al.* (2000) Science 290: 1155-1159

Sykes B (2001) The seven daughters of Eve. Bantam Press, London

Wells *et al.* (2001) Proc Natl Acad Sci USA 98: 10244-10249

Wells S (2006) Deep Ancestry: Inside the Genographic Project. National Geographic, Washington D.C.