

## HAPLOGROUP A

Your mtDNA results identify you as a member of haplogroup A. This haplogroup is the final destination of a genetic journey that began some 150,000 years ago with an ancient mtDNA haplogroup called *L3*.

Haplogroup *L3* occurs only in Africa, but on that continent its derivatives are found nearly everywhere. *L3*'s subclades are most prevalent in East Africa.

This ancient lineage reflects an early divergence from humanity's common genetic coalescence point.

"Mitochondrial Eve," the common ancestor of all living humans, was born in Africa some 150,000 years ago. All existing mtDNA diversity began with Eve and it remains greatest, and subsequently oldest, in Africa.

Y chromosome polymorphisms on the male line of descent also point to an African origin for all humans, but our male common ancestor, "Adam," lived only about 60,000 years ago.

MtDNA and the Y chromosome are independent parts of our genetic makeup and each tells a different tale of successive genetic mutations over the eons. That is why their approximate coalescence points are different. Yet while the dates vary, both paths point emphatically to a surprisingly recent African origin for all humans.

The oldest known fossil remains of anatomically modern humans were found in Ethiopia's Omo River Valley. The skeletons, known as Omo I and Omo II, have been dated to about 195,000 years ago.

Although haplogroup *L3* does not appear outside of Africa it is an important part of the human migrations from that continent to the rest of the world.

A single person of the *L3* lineage gave rise to the *M* and *N* haplogroups some 80,000 years ago.

All Eurasian mtDNA lineages are subsequently descended from these two groups.

The African Ice Age was characterized by drought rather than by cold. But about 50,000 years ago a period of warmer temperatures and moist climate made even parts of the arid Sahara habitable. The climatic shift likely spurred hunter-gatherer migrations into a steppe-like Sahara—and beyond.

This "Saharan Gateway" led humans out of Africa to the Middle East. The route they took is uncertain. They may have traveled north down the Nile to the Mediterranean coast and the Sinai. Alternatively, they may have crossed what was then a land bridge connecting the Bab al Mandab to Arabia, after which they either skirted the then-lush, verdant eastern coast of the Red Sea or headed east along the Gulf of Aden towards the Arabian Sea.

When the climate again turned arid, expanding Saharan sands slammed the Saharan Gateway shut. The desert was at its driest between 20,000 and 40,000 years ago, and during this period Middle East migrants became isolated from Africa.