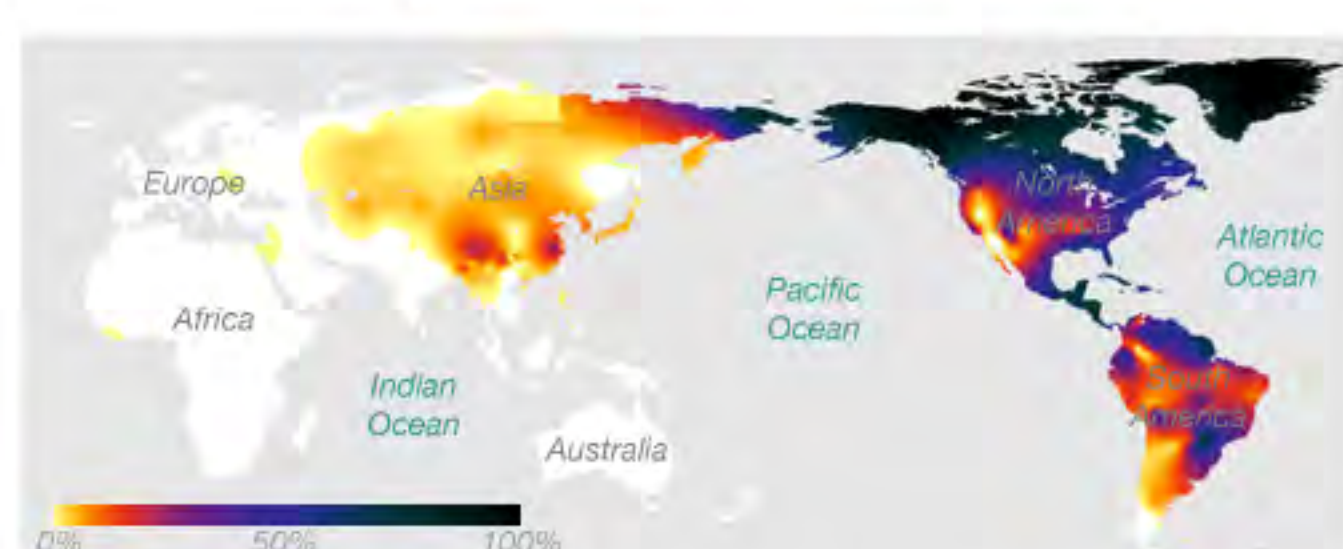


## A2 is a subgroup of A

Locations of haplogroup A before the widespread migrations of the past few hundred years.



Haplogroup A is most common in eastern Siberia and along the Pacific Northwest coast of the Americas. It is one of four major Native American haplogroups that crossed into North America more than 12,000 years ago from Siberia, where remnants of A still remain among indigenous people.



Dawson Falls on the Murtle River, British Columbia, Canada.

**Introduction**  
**Haplogroup A** arose in Asia almost 60,000 years ago. It is now at its highest levels among Native American groups. Along with several other **mitochondrial DNA** types found only in Native American and Asians,

haplogroup A provides clear evidence that the first people in the New World were migrants from Siberia and eastern Asia.

### A in Asia

**Haplogroup A** is widespread in Asia today, generally occurring at levels below 10% - but it reaches higher concentrations in some parts of China, Korea and Japan. Some ethnic Chinese populations, such as the Dong and the Yi, carry haplogroup A at levels as high as 30%. One branch of the haplogroup, A4, reaches levels of more than 15% among **mitochondrial DNA** samples collected in the city of Wuhan in central China.

*In the 23andMe blog...*

*Ancient China's famous Terracotta Army was constructed by men bearing haplogroup A. Check the [23andMe blog](#) to learn more about these ancient builders.*

### Ancient DNA in Siberia

**Haplogroup A** was widespread in Siberia as recently as 7,000 years ago. One study of skeletal remains discovered near Siberia's Lake Baikal estimated the haplogroup was present in 13-26% of the region's population at the time. But the haplogroup is rare in the region today; it is found almost exclusively among the Chukchi and the Yupik, two small indigenous groups from northeastern Siberia.

### A in the Americas

At the peak of the Ice Age, between about 20,000 and 15,000 years ago, massive glaciers covered much of North America and Eurasia. So much water was locked up in the ice sheets that global sea level dropped 300 feet, creating connections between land masses that are isolated by wide straits or passages today. One of those connections was the Bering land bridge, an ice-free but frigid corridor hundreds of miles wide that linked Siberia and Alaska. Mammoths, bison, caribou and other Ice Age mammals roamed back and forth between Siberia and Alaska during this period, as did a few hardy hunter-gatherers who could cope with the region's extreme climate.

As the Ice Age ended, people began moving south from the Arctic into the heart of North America. Within a few thousand years, possibly even faster, the new arrivals had populated the Western Hemisphere down to the tip of South America.

### Coastal Connection

**Haplogroup A** is especially common among members of the Haida, Nuu-Chah-Nulth, Nuxálk (Bella Coola) and Chumash tribes of the Pacific coast. Humans had certainly reached what is now California by 10,000 years ago, as evidenced by the discovery of skeletal remains on islands off the state's coast that have been radiocarbon dated to that age. Other skeletal remains from near present-day Monterey, California have yielded ancient DNA tracing to the A haplogroup.

Haplogroup A is found in Central America and northern South America, but not farther south. That suggests that however people carrying the haplogroup moved into the Americas, their advance was ultimately impeded by earlier arrivals to the southern continent.

Haplogroup A certainly would have been found among the subjects of the Inca empire, which ruled the northern Andes until the arrival of Spanish conquistadors in 1526. **Mitochondrial DNA** belonging to the haplogroup was extracted from the "Ice Maiden," the mummified remains of a teenage Inca girl who died in a ritual sacrifice about 500 years ago.

### Interior of North America

While the distribution of A is patchier in the interior of North America, it does appear at high frequencies in many populations, particularly in the American Southwest, northern plains, and the southeastern United States.

About 50-60% of individuals from the Navajo and Apache carry **haplogroup A**, while their neighbors rarely carry this haplogroup. Interestingly, the Navajo and Apache are both southern Athapaskan speakers that appear to have migrated from a homeland further north to the American Southwest only about 500 years ago. Athapaskan-speakers still reside in Alaska and Canada. Although they have adapted to the desert climate and the Pueblo lifestyle (at least the Navajo), their mitochondrial diversity still records their northern heritage.

Haplogroup A is also common in Algonquian-speaking populations from the Plains region of the United States and Canada, ranging from 30%-60%. Ojibwa/Chippewa, Cheyenne and Arapaho were all historically Algonquian-speaking populations from the Plains region and Great Lakes of United States and Canada.

Iroquoian-speaking groups such as the Mohawk also carry haplogroup group A at high frequencies (60%). It is not clear if this indicates that the Mohawk historically married women from other northern tribes or if the high frequency of A represents a recent bottleneck in the population. Iroquois from further south (e.g. Cherokee) have much lower frequencies of haplogroup A.

Haplogroup A is also quite common in Muskogean-speaking populations from the southeastern United States, reaching almost 75% in the Choctaw historically from Mississippi and 60% in the Seminoles of Florida. Genetic types in these southeastern populations are different from other haplogroup A individuals throughout North America. This indicates that haplogroup A in the southeastern populations is the result of ancient common ancestry with the other Native Americans, rather than recent gene flow. Southeastern populations also display relatively low genetic diversity, indicative that the population size may have crashed after contact with European explorers.

### The Polar Route

A second migration of **haplogroup A** members into North America appears to have occurred more recently, as Eskimo-Aleut populations moved eastward from Siberia into Arctic Canada and Greenland about 5,000 to 6,500 years ago. That migration is marked by the wide distribution of A2 from the Haida on the Pacific coast of Canada to the Inuit in Greenland, where the subgroup accounts for 100% of the population.

Maternal haplogroups are families of mitochondrial DNA types that all trace back to a single mutation at a specific time and time. By looking at the geographic distribution of mtDNA types, we learn how our ancient female ancestors migrated throughout the world.

**Haplogroup:** A, a subgroup of N

**Age:** greater than 50,000 years

**Region:** Americas, Siberia, East Asia

**Example Populations:** Native Americans, Siberians

**Highlight:** Mitochondrial DNA from haplogroup A was extracted from the "Ice Maiden," the mummified remains of a teenage Inca girl who died about 500 years ago.

## Haplogroups of You and Your Connections

A2	Shannon Byrne
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## Haplogroups of Example Profiles

D4e2	Example Japanese Person
D5a2a'c	Example Chinese Person
L3e2b2	Example Nigerian Person

## Haplogroups of Famous People

A2	Eva Longoria
C	Yo-Yo Ma
H	Luke the Evangelist, Marie Antoinette, Napoleon Bonaparte, Prince Philip, Susan Sarandon
H2a1	Dr. Oz
H3	Jimmy Buffett
H4a	Warren Buffett
K	Katie Couric, Meryl Streep, Stephen Colbert
K2a2a	Mike Nichols
L0d	Desmond Tutu
L3f1	Malcolm Gladwell
M8a	Kristi Yamaguchi
T2	Jesse James
T2b2	Henry Louis Gates, Jr.
V	Benjamin Franklin, Bono