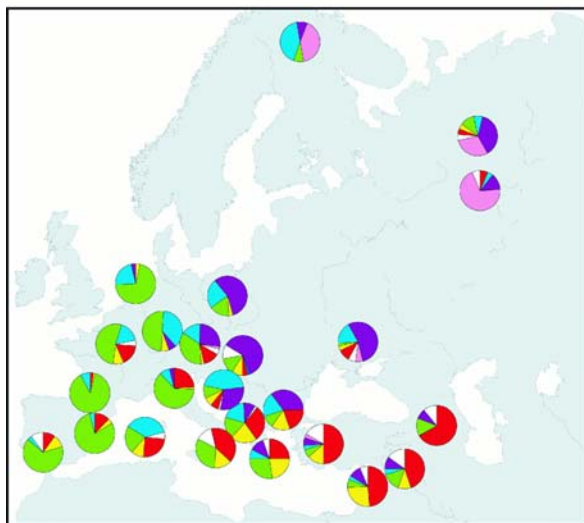
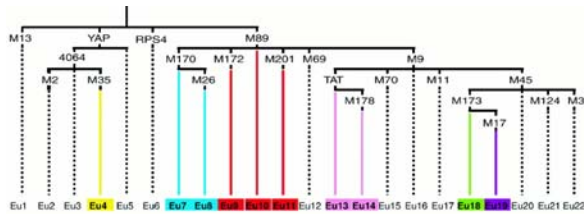


Geneticists divide African Adam's descendants into haplogroups popularly called "clans" to make the subject easier for lay people to understand. Different types of Y-STR patterns correspond to different haplogroups. Currently, there are only 18 major haplogroups.

Geographical clustering is influenced by the behavior of men, who are the carriers of the Y chromosomes. Approximately 70% of modern societies practice patrilocality: if a man and a woman marry but are not from the same place, it is the woman who moves rather than the man. As a consequence, most men live closer to their birthplaces than do women.



Global Distribution of Y Haplogroups

- Green = R1b
- Purple = R1a
- Blue = I
- Red = J, G
- Yellow = E3b
- Pink = N3
- White = Other

Semino et al (2000) Science 290, 1155-1159

Haplogroup R1b is the most common haplogroup in European populations. Haplogroup R1b (marked in green) is an ancient Eurasiatic marker that was brought by or arose in the group of Homo sapiens who entered Europe and spread from east to west about 40,000 to 35,000 years ago, spreading the Aurignacian culture. This culture spread almost simultaneously in Siberia from which some groups eventually reached the Americas.

Your ancestors are derived from Haplogroup R1 which represents a Paleolithic genetic marker whose age has been estimated at about 30,000 years and is found in about 50% of European populations. Haplogroup R1 is defined by the M173 genetic marker (also known as Eu18, HG1). Scientists propose that Haplogroup R1b originated in Europe in descendants of men that arrived from the Asia 35,000 to 40,000 years ago. The closest predecessor for M173 is the M207 marker from Asia.

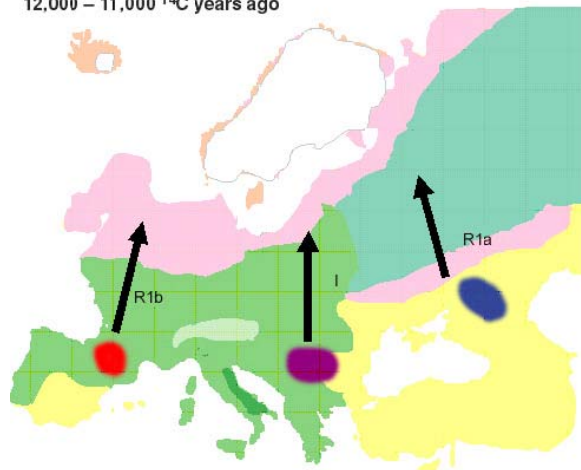
22,000 – 14,000 ¹⁴C years ago



Scientists interpret the distribution of Haplotype R1 as expansions from isolated populations in the Iberian Peninsula (Spain, Portugal) and the present Ukraine, following the last ice age. During the last ice age (20,000 to 13,000 years ago) Western Europe was isolated from Central Europe and humans were forced to vacate Central Europe with the exception of a refuge in the northern Balkans. After the climate improved, about 10-12,000 years ago, your ancestors spread north and east.

Haplogroup R1 split into two subgroups R1a and R1b. The subgroup R1b is distributed all around Europe while the subgroup R1a is common in Central and Western Asia, India, Pakistan and in the Slavic populations of Eastern Europe. Haplotype R1b lineage is associated with the Aurignacian culture while Haplogroup R1a lineage is associated with the Kurgan culture. The frequency of R1b decreases from west to east Europe, being most frequent in the Basques (Pyrenees).

12,000 – 11,000 ¹⁴C years ago



R1b Haplogroup:

Y SNP Marker	Years Before Present	Migration Route
M94	?	In Africa
M168	50,000	Africa->Middle East
F(M89)	45,000	Middle East->South West Asia
K(M9)	40,000	South West Asia->North Central Asia
P(M45)	35,000	North Central Asia->North West Asia
R(M207)	?	In North West Asia
1(M173)	30,000	North West Asia->Europe
b(P25)	?	In Europe

Paleolithic Era in Europe:



Prehistorical times are studied in three separate periods. Since the emergence of humans until 12000 B.C., this first period is called the Palaeolithic Age (40,000 – 8,000 BC); this period is also named the Old Stone Age. The Palaeolithic Age which left only cave paintings, primitive stone tools, and monuments was followed by a transitional period between 12000 B.C. and 8000 B.C. called the Mesolithic Age or Middle Stone Age. This period also established the foundations for systematic organization of agriculture and cities during the Neolithic Age. The Neolithic Age emerged between 8000 and 2700 B.C. It is also known as the New Stone Age. This period was not experienced at the same time throughout the world. Continental Europe did not come into the Neolithic Age until much later after Asia Minor.

Early man made his greatest cultural progress at this time. The climate of the Paleolithic varied from cold steppe, or even Arctic tundra, to north temperate, similar to parts of Siberia and Canada of the present day. The hand axes and flake tools of the earlier assemblages were replaced by diversified and specialized tools made on blades struck from specially prepared cores. Many important inventions appeared, such as needles and thread, skin clothing, hafted stone and bone tools, the harpoon, the spear thrower, and special fishing equipment. Bone, ivory, and antler, in addition to flint, were extensively used. Of prime importance and interest is the beginning of the basic techniques of drawing, modeling, sculpture, and painting, as well as the earliest manifestations of dancing, music, the use of masks, ceremonies, and the organization of society into patterns that were apparently fairly complex. Indeed, the location of certain settlements suggests a more complex social life, including perhaps collective hunting. There is evidence for fertility magic, private property, and possible social stratification.

Aurignacian culture in Europe:



Haplogroup R1b appeared to have arrived in Europe spreading the Aurignacian cultural. The Aurignacian period dates to 35,000–15,000 BC. About 20,000 years ago, the Ice Age was in progress and at its most harsh during this time with the areas to the north having been covered by ice fields, glaciers, and tundra; with the tundra reaching the area where your clan inhabited. Large game including bison, ibex, horses, and reindeer were prevalent in the area and were most likely hunted with sophisticated stone and bone tools by your ancestors, who also in all likelihood gathered plants and shellfish. The large fauna which were present in the area is mirrored by the art left behind, painted with red and yellow ocher on the cave walls and carved into pieces of stone, bone, and antler found in the caves which were most likely dwellings or spiritual

places for your ancestors. Some of the most famous Paleolithic cave art locations are Lascaux, Altamira, and Chauvet.

Aurignacian tools included scrapers, burins (which made the engraving possible), and blades. Points and awls were fashioned from bones and antlers. Aurignacian art represents the first complete artistic tradition, moving from simple engravings of animal forms on small rocks to finer pieces of carved bone and ivory to highly stylized clay figurines of pregnant women (the so-called “Venus figures,” presumably fertility figures). By the end of the Aurignacian, hundreds of engravings, reliefs, and paintings had been executed on the walls and ceilings of limestone caves in Western Europe, most famously Lascaux Grotto, France.



Magdalenian culture in Central Europe:



Around 20,000 years before the present in Europe, close to the northern border of what is modern-day Spain, the plants and animals were greatly unlike those which flourish in the area today and life was extremely different for your hunter-gatherer ancestors. This was an astounding 12,000 years before agriculture reached this area of Europe and the clans depended on comparatively dangerous hunting techniques. Your ancestors would have participated in this culture.

The art became much more sophisticated, covering the huge walls of the caves as the ice age was coming to an end from about 15,000 to 10,000 years before the present. This is viewed as having been significant because around that time the previously abundant game animals were either moving north as the ice melted or simply dying out and it would have become more essential to participate in the hunting magic.



Some of the most original features of this Magdalenian Pyrenean art consists of stone-carvings (horses and bison made from pink sandstone of Isturitz and Duruthy, western part of the Pyrenees) and hand-modelings as well as engravings of animals on clay discovered in the most remote areas of the Central Pyrenees caves (bison of the Tuc-d’Audubert cave, of the Bèdeilhac cave). This great art of hunters, brought to perfection by the Magdalenians, ends about 11,000 years ago, with the end of Ice Age.

The Middle Magdalenian era (from 14,500 to 13,000) sees the development of the conquest and mastery of the territory. Tools also become more advanced during the Upper Paleolithic with a shown dependence on compound tools (tools which can be repaired as opposed to replacing the whole tool) such as detachable spear points. Spear shafts were carved. Ample evidence was also available for the first time of tools for making tools, such as burins which were used to produce tools out of materials such as antler and bone. This led to tools which could be more easily sharpened, were more durable, and were capable of producing clothing along with tents with greater ease. A large amount of the implements originated from two great regional base camps: Isturitz (Pyrénées-Atlantiques) and Mas-d'Azil (Ariège). The Magdalenian culture's end corresponded roughly with the end of the Ice Age and the loss of large game, all of which occurred around approximately 10,000 BC.



Neolithic Era in Europe:



Beginning around 8,000 BC, many human cultures became increasingly dependent on cultivated crops and domesticated animals to secure their supply of food. Some hunting-gathering groups developed more intensive techniques that permitted them to establish village-farming settlements. A sedentary life may have been made possible by abundant resources due to improved post-glacial climatic conditions, with a culture living from hunting, fishing and gathering, including the use of

wild cereals. Tools were available for making use of cereals: flint-bladed sickles for harvesting, and mortars, grinding stones, and storage pits. The Mediterranean zone became the centre of the first cultural modifications leading from the last hunters and food gatherers to the earliest farmers.

The earliest houses of central Europe were very large, up to 135 feet in length and large enough to accommodate a whole lineage or small clan together with stalled cattle and grain stores. These communal houses gave place to smaller two-roomed dwellings, 25 to 33 feet long, but still entered through one end. Finally in late Neolithic times clusters of one-roomed huts became the most widespread fashion. Around the Alps such two-roomed houses and, less often, one-roomed huts were raised on piles above the shores of lakes or on platforms laid on peat mosses. Neolithic art, except among the hunter-fishers of the taiga, was geometric and not representational. It is best illustrated by the decoration of pottery. Pots, which were always handmade, were painted in southeastern Europe.



During the period of the Neolithic revolution (8,000-5,000 BC), agricultural techniques of production expanded from the Middle East to other areas of the globe where the climate permitted. The basis of life



everywhere was subsistence farming, supplemented by some measure of hunting and fishing—fish being a source of food curiously neglected in western and central Europe during the earlier phases of the Neolithic. Everywhere the same cereals were cultivated, together with beans, peas, and lentils. Around the Alps, apples were eventually cultivated and utilized for the preparation of a sort of cider. Cattle raising, combined with hunting proved to be the most productive pursuit among the deciduous forests. Cultivation was relegated to an increasingly secondary place, until in the late Bronze Age when more efficient tools for clearing land became generally available.



This was a time when more elaborate burial customs developed throughout Europe, as ancestor cults came into fashion, with their close ties to ancestral farming land. In Western Europe, groups of villages built communal stone tombs, often called megaliths, where important kin leaders and people with genealogical ties to kin group ancestors were buried. Those who supervised the building of shrines and communal tombs, and led the rituals conducted there, assumed increasing political and social power in new, European societies.

Basques:

Over 80% of Spanish and French Basques belong to Haplogroup R1b. The Basque peoples primarily live in Spain and France along the Bay of Biscay and in the western Pyrenees mountains. About 850,000 true Basques live in Spain and another 130,000 in France. Physically the Basques are similar to other Western European peoples; the Basque language Euskara, however, is not Indo-European. Basque has no known linguistic relatives and linguists call it a language isolate. For centuries, Basque culture was transmitted orally through songs, poetry and traditional dances and the first Basque writings date from the 16th century. Dancers wear a red or blue cap, called beret (boina), that date to ancient religious ceremonies. The oldest instrument to accompany dancers is the *txistu*, a little flute with 4 holes that is played with the left hand. The oldest fossilized *txistu* has been dated 27,000 years. The Basque people are also noted for their games. One of their favorite games is *jai lai*, which is played with a wooden ball in an enclosed area.



This information is meant to give you a plausible snapshot of what life was like when and where your paternal line originated. It combines the results of ongoing archaeological, linguistic and genetic research. Because the study of human pre-history is not exact and must rely on assumptions, scientists may disagree about the best interpretation of existing knowledge. As additional research results become available our assumptions may be updated or change completely. Your paternal inheritance is a small part of your overall inheritance but provides you with the clearest view possible of your pre-historic ancestry. It's like finding an especially beautiful and informative artifact in the remains of an ancient village

or campsite. Genelex hopes that this information has been exciting and informative to you. We are honored to have played a role in your search for your genetic ancestry.

Percentage of Population that are Haplogroup R1b:

Andalasian -65.5%	Albanian – 17.6%
British – 72%	Greek – 27.6%
Spanish Basque – 89.9%	Macedonian - 10.0%
French Basque – 86.4%	Polish – 16.4%
Catalan – 79.2%	Hungarian – 13.3%
French – 52.2%	Ukrainian – 2.0%
Dutch – 70.4%	Georgian – 14.3%
German – 50.0%	Turkish – 6.6%
Czech and Slovakian – 35.6%	Lebanese – 6.4%
Italian – 62.0%	Syrian – 15.0%
Calabrian – 32.4%	Saami – 8.3%
Sardinian – 22.1%	Udmurt – 11.6%
Croatian – 10.3%	

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