

Haplogroup R1b (Y-DNA)

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(Redirected from M343)

In human genetics, **Haplogroup R1b (M343)** (previously called **Hg1** and **Eu18**) is the most frequent Y-chromosome haplogroup in Europe.

Its frequency is highest in Western Europe (and due to European emigration, in North America). In Southern England the frequency of R1b is about 70% and in parts of Spain, Portugal and Ireland, it is as high as 90%.

Contents

- 1 Origins and subgroups
- 2 Connection with the peopling of Europe
- 3 Modal Haplotypes
 - 3.1 Niall of the Nine Hostages
- 4 Relationship to other haplogroups
- 5 Technical specification of mutation
- 6 See also
- 7 References
- 8 External links

Origins and subgroups

Haplogroup R1b is an offshoot of Haplogroup R1 (M173), characterised by the M343 marker.

Present-day Europeans with M343 also have the markers P25 and M269. This defines the more precise subgroup R1b1c. It is conjectured that this subgroup appeared as modern humans made their way into the Iberian peninsula, coming from Southern France. Here, this genetically homogenous population were sheltered during the last Ice Age.

Populations characterised as R1b1a (M18) and R1b1b (M73) with those distinctive markers but no M269 have been found, in Sardinia, and in central Asia, respectively. It is presumed that these are descendents of R1b1 populations which found other refuges from the ice. Another R1b population, from an apparently even earlier branching, has been found in Cameroon in west central Africa [1] (http://hpgl.stanford.edu/publications/AJHG_2004_v74_p000-0130.pdf) .

(Note that in earlier literature the M269 marker, rather than M343, was used to define the R1b haplogroup. Then, for a time (from 2003 to 2005) what is now R1b1c was designated R1b3. This shows how nomenclature can evolve as new markers are discovered and then investigated).

The majority of men of European descent belong to R1b. Another haplogroup, haplogroup R1a, that is prevalent in Eastern Europe, Central Asia, and India, is closely related to R1b. Both are descended from R1; the haplogroup R1a does not have the M343 marker, but has another marker, M17.

Connection with the peopling of Europe

The members of R1b are believed to be descendants of the Cro-Magnon people, the first modern humans to

enter Europe, approximately 35,000 years ago. The Cro-Magnons were the first documented human artists, making sophisticated cave paintings. Famous sites include Lascaux in France, Cueva de las Monedas in Spain and Valley of Foz Côa in Portugal (the biggest open air site in Europe).

The Cro-Magnons were contemporaries of European Neandertals, who died out not long after the first modern humans spread out. While there are theories of a genocide occurring, there is no archaeological evidence supporting this. The populations sheltered in Iberia, descendants of the Cro-Magnon, given the deglaciation (the Allerød Oscillation, an interstadial deglaciation that weakened the rigorous conditions of the Ice Age), migrated and recolonized all of Western Europe, thus spreading the R1b Haplogroup populations (still dominant, in variant degrees, from Iberia to Scandinavia). See:[2] (<http://www.scs.uiuc.edu/~mcdonald/WorldHaplogroupsMaps.pdf>)

Modal Haplotypes

Within the R1b haplogroup are modal haplotypes. One of the best characterized is the Atlantic Modal Haplotype (AMH).

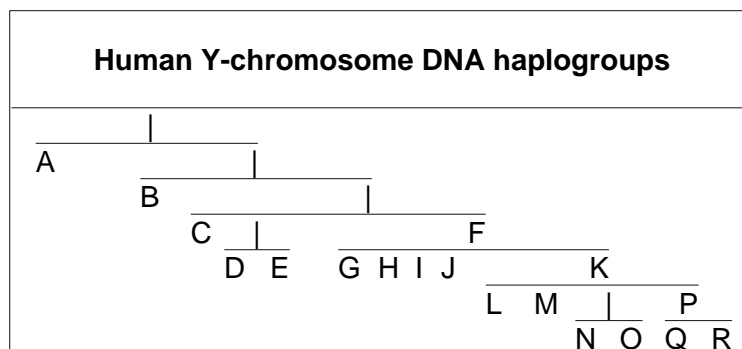
Niall of the Nine Hostages

In 2006, a subgroup of R1b common among people of Irish patrilineal descent was identified as the probable haplotype of many within the of the sept associated with Niall of the Nine Hostages, an Irish king in the Dark Ages.

Relationship to other haplogroups

R1b is a subgroup of Haplogroup R (M207).

- Haplogroup R (M207)
 - Haplogroup R1 (M173)
 - Haplogroup R1a
 - Haplogroup R1a1 (M17)
 - Haplogroup R1a*
 - **Haplogroup R1b** (M343)
 - Haplogroup R2 (M124)



Technical specification of mutation

The technical details of M343 are:

```
Nucleotide change: C to A
Position (base pair): 402
Total size (base pairs):424
Forward 5'→3': tttaacctcctccagctctgca
Reverse 5'→3': acccccacatatctccagg
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This refers to a particular 424 base-pair fragment of DNA that the polymerase chain reaction produces when one uses the two "primer" strands listed.

See also

- Human Y-chromosome DNA haplogroup
- Genealogical DNA test
- Neandertal interaction with Cro-Magnons

References

- Luigi Luca Cavalli-Sforza (1994). *The History and Geography of Human Genes*. Princeton University Press. ISBN 0691087504
- Semino et al (2000), The Genetic Legacy of Paleolithic Homo sapiens sapiens in Extant Europeans (http://hpgl.stanford.edu/publications/Science_2000_v290_p1155.pdf) , Science, Vol **290**
- Wells et al (2001), The Eurasian Heartland: A continental perspective on Y-chromosome diversity (<http://www.pnas.org/cgi/reprint/98/18/10244.pdf>) , PNAS, Vol **98**
- C. Cinnioglu et al. (2004), Excavating Y-chromosome haplotype strata in Anatolia (http://hpgl.stanford.edu/publications/HG_2004_v114_p127-148.pdf) , Human Genetics **114**(2):127-48.

External links

- Spread of R1b (<https://www3.nationalgeographic.com/genographic/atlas.html?card=my050>) , from the Genographic Project, *National Geographic*
- Summary Overview of Haplogroup R1b1c (M269) (<http://www.ethnoancestry.com/EAM269Sept05.htm>) (Nov 2005) from Ethnoancestry. Retrieved Feb 2006.
- Worldfamilies.net Page on Haplogroups (<http://worldfamilies.net/y-haplogroups.htm>)
- <http://member.tripod.com/~midgley/dna.html>
- <http://home.cfl.rr.com/wade3/Haplogroup%20R1b.htm>
- <http://www.dnaheritage.com/ysnpmarkers.asp>

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