A simple method for MacLeod men to determine if they are paternal-line descendants of the presumed chiefly line of MacLeods.

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About half of the MacLeod men in the MacLeod surname project at FTDNA descend from the presumed chiefly line of MacLeods along their paternal line based on Y-DNA tests. These tests provide lots of unique information about your paternal ancestry, but they can be expensive.

An inexpensive way to find out if your paternal line leads to the chiefly line of MacLeods is to take an autosomal DNA test and follow these instructions.

Once you receive your autosomal DNA results, follow the site's instructions to download your raw DNA data. For example, at the Ancestry site, select **DNA**, then select **Your DNA Results Summary,** then select **Settings** (i.e., click on gear wheel), then select **Download DNA data**.

Follow the site's security prompts and specific download methodology, and please note the warnings related to this download.

Then, open the downloaded '.txt' file that contains your DNA data and use the 'Find' option to find rs775040950.

If your file looks like this:

and you have a 'T' in the last 2 columns then you very likely descend from the chiefly line of MacLeods directly along your paternal line.

If your file looks like this:

and you have a 'C' in the last 2 columns then you *do not* descend from the chiefly line of MacLeods directly along your paternal line. However, you might have a maternal connection to the chiefly line.

Note that if you are a female MacLeod, you will not have this line in your raw DNA file because you do not carry a Y chromosome. In this case, we suggest finding a genetic male MacLeod relative to take an autosomal or Y-DNA test—like a brother, father, uncle, or cousin.

To learn a lot more about your MacLeod ancestry beyond this simple 'yes/no' test, we recommend Y-DNA testing up to and including the Big Y-700 test.

Technical background

This method takes advantage of the fact that an autosomal DNA test is also finding mutations on the Y chromosome in addition to the other chromosomes. The name ‘rs775040950’ is a unique label that refers to a specific mutation on the Y chromosome at position 21930315. In most men, the DNA chemical found at this position is cytosine, or C. In some men, cytosine has mutated to thymine, or T.

This specific C-to-T mutation (SNP) is very well known and is named R-L165 (previously called S68). It first appeared in a man born about 2340 BCE, possibly in the area now known as France. MacLeods in the presumed chiefly line are descendants of this man and therefore they all carry the R-L165 mutation. Here are the named mutations from R-L165 leading to R-BY3210 - the mutation currently viewed as the top of the chiefly line of MacLeods:

R-L165 › R-BY456 › R-BY3224 › R-BY19719 › R-BY3253 › R-S6338 › R-BY30488 › R-BY3210 ›

MacLeods in other groups who are not in the chiefly line do not carry the R-L165 mutation.

References

Tim McLeod, personal communication, 2022

Urbaneja, Patricia Villaescusa, 2019, New insights in the paternal genetic landscape of Southwestern Europe: Dissection of haplogroup R1b-M269 and forensic applications.

See Table S1, page 122.

https://addi.ehu.es/bitstream/handle/10810/42321/TESIS_VILLAESCUSA_URBANEJA_PATRICIA.pdf