

## BritainsDNA Chromo2 Results and the M222 (S629, S637 etc) group.

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This page is aimed at male customers of BritainsDNA (ScotlandsDNA or IrelandsDNA) who have taken the Chromo2 test which launched in the summer of 2013. It is of general assistance but also specifically aimed at those who the results show are in a particular genetic group, usually known as 'M222' - although not as we will see denoted as such in all the Chromo2 results files.

Depending on which version of the male-line (Y chromosome) product was ordered, you may have a text file of results containing some 14,000+ markers and their results, positive or negative; you may have a string of positive marker results; or you may have been given a descriptive narrative of your ancestral origins.

### 1. "Iain Kennedy Raw YDNA Test Results.txt"

For those who ordered the Chromo2 'Raw Y' test you will be able to download from your results page a file incorporating your name as in my example above. Mine currently has 14,284 entries and each has this format:

SNPID - genotype - result

The SNPID is the scientific name of the genetic marker (in our case these are all of a type called a 'SNP').

genotype is the raw result of the test, in terms of DNA bases. Usually but not always a pair of identical values like 'AA'.

result is the English interpretation of the result, normally either it will say positive or negative, but there may be a few 'no calls' where the test failed.

These 14284 SNPs are named after the scientist who discovered them eg CTS stands for Chris Tyler-Smith. BritainsDNA use the code 'S' at the start to name the SNPs they found themselves or sometimes as alternative names for ones found elsewhere. The SNPs are in alphabetical order and need some interpretation. Most men in Britain and Ireland are in a SNP group normally called L21 which on Chromo2 is called S145 and here is my raw file entry for it:

S145-GG-positive

Here 'G' is my personal result and this shows that I am positive for this SNP as the ancestral value is 'C'. You don't need to worry about what the ancestral and derived values are though as the third column tells you straight away whether you have the mutation or not.

Many men from Scotland and Ireland and some from England too belong to a group below S145 in the genetic tree known as 'M222'. This group originally gained a lot of attention when scientists and historians linked it to a famous Irish High King Niall Noígíallach and it was dubbed the 'Niall' or 'Ui Neill' marker. More research since, including the latest analysis using the Chromo2 test, has indicated that it may be older than previously thought and may have started in Britain and moved to Ireland rather than vice versa. Its maximum concentration is still in Ulster but its maximum diversity, a more accurate guide to where it started, may lie in Scotland.

BritainsDNA did a lot of private R&D to find new genetic structure inside M222 and the result was some 28 new SNPs of great interest if you are in this group. Unfortunately for technical reasons the M222 SNP test itself failed when the test went into production and so your results file will not mention M222. You will see Z2961 which lies immediately above M222, then a number of other markers which are thought to be genetically equivalent to M222 and can be taken as proof that you are also M222 itself. There are over 20 of these equivalents but if you have a couple then you don't need to check any further and you can consider yourself M222:

S629-AT-positive  
S637-GG-positive  
S655-AG-positive  
S7072-GG-positive

For the 28 sub-M222 SNPs it is best to check with me because if you only have a list of positive SNPs it is possible to be M222 and be negative for all the sub-M222 SNPs. For example I am in this category although probably only about 15% of people will be the same. Most will be positive for at least half a dozen depending on which new sub-branch they lie.

I am keen to make contact with all people who are reporting positive for S629, S637, S655 and S7072. I would also like to hear from anyone who is positive for the SNP immediately above them which is Z2961. Also if you are in the same sub-group within M222 as I am I may be able to help further refine your position. I can be contacted here: <http://www.kennedydna.com/contact.html>.

## 2. Haplogroup/Narrative text for M222+ customers.

If you ordered the main YDNA product you may also have been given a haplogroup result on your results page and a narrative account or 'Haplogroup Story' of your male ancestry. The Subtype uses the M222 name e.g. I am denoted R1b-M222\* being negative for all the new SNPs. The 'Genetic signature' lists all my positive SNP markers in alphabetical order (minus M222 itself as explained above); in other words it is simply a long string of all the positive calls

that can be seen in the raw file.

The Haplogroup Story also uses the M222 marker name. My account takes us along an ancestral trail through the higher level haplogroups such as S145/L21 down to M222. The latter is referred to as 'Ancient Irish' and attached to the earlier story of Niall Noígíallach; I expect the firm to revise this in the future once more M222 data has come in as the trend is away from this theory.

If this article has whetted your appetite to explore your paternal ancestry and you are male, consider taking the Chromo2 Raw Y test at <http://www.scotlandsdna.com/mydna/basket/add/6>

I have no financial involvement in this company but support their research into M222 because I find it interesting.

Iain Kennedy

<http://www.kennedydna.com/contact.html>