Journal: www.jogg.info
Originally Published: Volume 5, Number 1 (Spring 2009)
Reference Number: 51.007

NULL VALUES FOR DYS425 IN Y HAPLOGROUP Q

Author(s): Rachel Rein

Journal of Genetic Genealogy, 5(1):66-68, 2009

Null Values for DYS425 in Y Haplogroup Q

Rachel Rein

Abstract

An assessment of Y-STR haplotype records from Y Haplogroup Q shows that a null value at DYS425 is relevant in predicting subclade assignment even in the absence of SNP testing. Specifically, every record classified as Q1a3 showed a value, almost always 12, on DYS425, while every record classified as Q1b showed a null value.

Introduction

Haplogroup Q is defined by the single nucleotide polymorphism (SNP) M242, and it has 14 known subclades (ISOGG, 2009). A haplogroup name followed by an asterisk (*) indicates membership in a particular clade, but not in any known subclade. Specifically, the asterisk indicates that a sample does not possess the mutations that would place it in one of the known subclades. Sometimes the asterisk is misused to indicate that none of the downstream SNPs have been tested (Athey, 2009).

Haplogroup Q's 14 known subclades are:

Q*, Q1*, Q1a*, Q1a1, Q1a2, Q1a3*, Q1a3a*, Q1a3a1, Q1a3a2, Q1a3a3, Q1a4, Q1a5, Q1a6, Q1b

In the present study an assessment of 237 records from Haplogroup Q explores the prevalence of a null value at DYS425 and its relevance in subclade sorting. DYS425 is currently tested as part of Family Tree DNA's 67-marker panel and Oxford Ancestors' 10-marker panel.

Methods

The total record count considered here includes all 228 records from the Haplogroup Q Project and the additional 9 non-duplicate records from the Ashina Project. The records were tested by Family Tree DNA as of 23 February 2009. The Haplogroup Q Project requires a positive test for M242 or P36.2; MEH2 was not typed in a set of the samples according to the Haplogroup Q Project.

Of the 237 Haplogroup Q records available, 140 records have undergone SNP testing (indicated in the project listings by showing the haplogroup name in green; a predicted haplogroup is indicated in red).

A total of 78 records have tested the 67-marker panel that includes DYS425. Of these, 50 have undergone SNP testing.

Records were sorted according to definitive sublclade assignment. The 13 records with a Q* or Q1* designation are considered ambiguous because some, if not all, were run at a time when no SNP downstream from M242 or P36 was tested (Canada, 2009).

For example, two of the records analyzed match on 66 of the 67 Y-STR markers, are of the same religious and geographic origin, and both have a null value for DYS425, but one is listed with a confirmed subclade of Q1b and the other with a confirmed subclade of Q*. It is very likely that they are both in Q1b, but the latter record was not SNP tested for the relevant downstream marker. There is currently no way to determine which SNPs were tested for a particular record without contacting the record owner.

Results

The surveyed records with SNP test results were assigned to six of the Haplogroup Q subclades: Q*, Q1*, Q1a2, Q1a3*, Q1a3a*, Q1b. However, the 13 records with a Q* or Q1* designation are so labeled only because no SNP downstream from M242 or P36 has been tested—they are probably not really Q* or Q1*. Of the four records classified as Q1a2, none have results for DYS425, so these have been excluded from the analysis.

No records were found in the other 8 subclades: Q1a*, Q1a1, Q1a3a1, Q1a3a2, Q1a3a3, Q1a4, Q1a5, Q1a6.

Thirty-seven records were found to have haplogroup assignments into either Q1a or Q1b and also to have a value for DYS425.

Address for correspondence: Rachel Rein, jogg@reinyday.com

Received: February 24, 2009; accepted: April 27, 2009

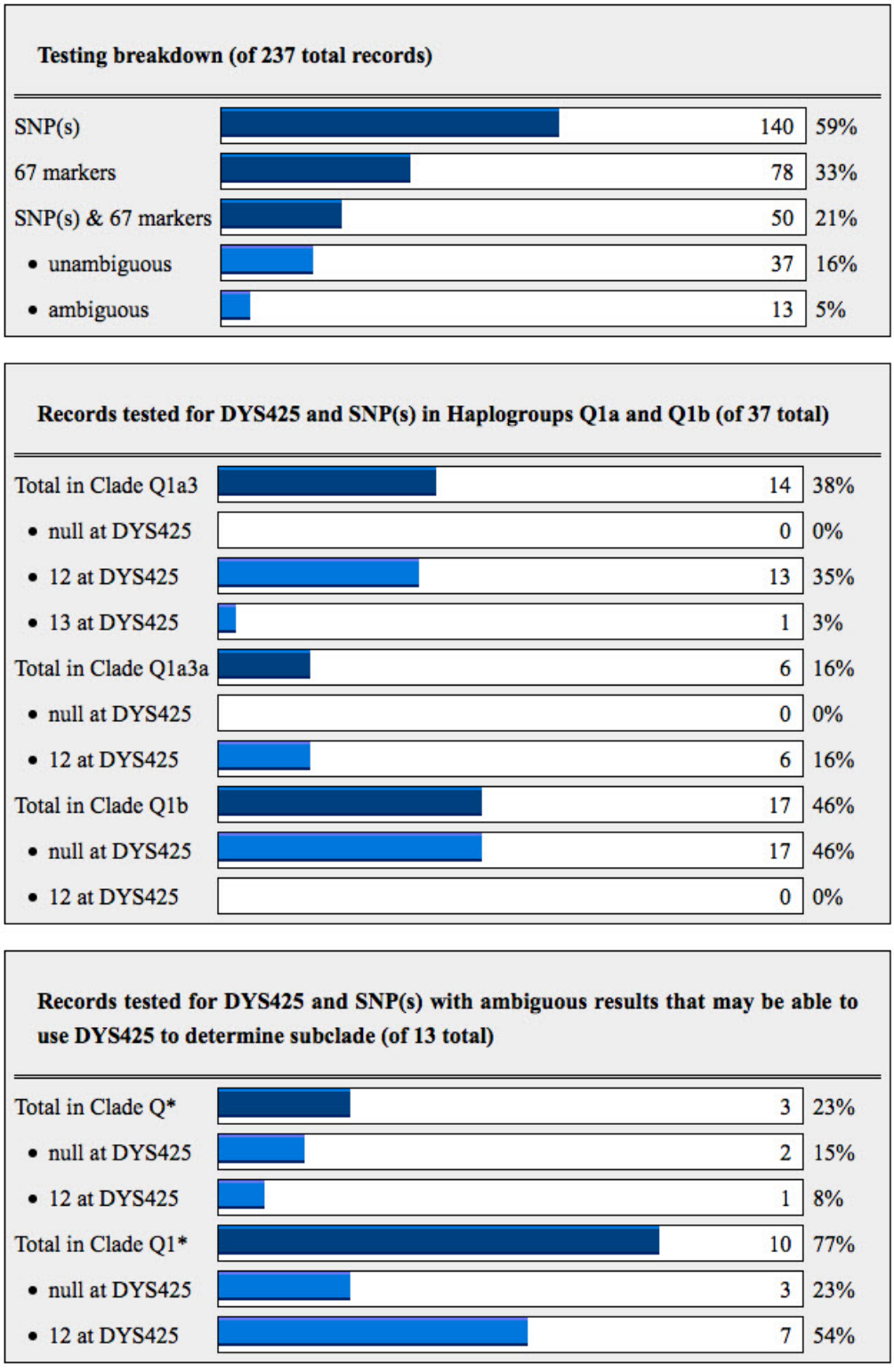

Figure 1. Summary of the test data from 237 Haplogroup Q records.

All 17 records assigned to Haplogroup Q1b had null values for DYS425.

Of the 20 records assigned to Haplogroup Q1a (i.e., Q1a3* and Q1a3a*) 19 of them had a value of 12 and one record had a value of 13 for DYS425. No Q1a records had a null value for DYS425.

Figure 1 shows a summary of the testing for the 237 Haplogroup Q records.

Conclusions

Thus far, all records that have been assigned by SNP testing into Haplogroup Q1b also have a null value for DYS425. All records that have been assigned by SNP testing into a subclade of Haplogroup Q1a (namely Q1a3* and Q1a3a*) have a (non-null) value for DYS425. All but one of the records with a value for DYS425 have allele value 12. The single exception has allele value 13.

The presence or absence (null) of a value for DYS425 is correlated with subclade divisions in Haplogroup Q. Additional testing is needed to determine exactly which subclades have the null value. In particular, Haplogroup Q1a2 members should be tested for DYS425.

Web Resources

http://www.isogg.org/tree/ISOGG_HapgrpQ09.html
ISOGG 2009 Y-DNA Haplogroup Q and its Subclades

http://m242.haplogroup.org
Haplogroup Q Project

http://www.familytreedna.com/public/AshinaRoyalDynasty/
Ashina Project

References

Athey TW (2009) Personal communication from Whit Athey.

Canada R (2009) Personal communication from Rebecca Canada, Administrator of the Y Haplogroup Q Project.

ISOGG (International Society of Genetic Genealogy) (2009) Y-DNA Haplogroup Q and its Subclades.