

Resolving the Placement of Haplogroup I-M223 in the Y-Chromosome Phylogenetic Tree

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Evidence from four case studies is presented demonstrating that Y Haplogroup I-M223 should properly be considered a subgroup of Haplogroup I1, rather than as a separate Haplogroup I2 as recently proposed. Haplogroup I-M223 had not been discovered when the 2002 Y phylogenetic tree was published by the Y-Chromosome Consortium (YCC). The first study of Haplogroup I-M223 designated it as a subgroup of I1 and named it I1c. A later proposed revision of the Y phylogenetic tree, however, showed I1a and I1b as P38+ and I1c with P38-, which required Haplogroup I-M223 to be renamed as Haplogroup I2. The present study presents four cases in which M223+ men were shown to be also P38+, which reunites Haplogroup I-M223 with I1a and I1b within Haplogroup I1.

Introduction

Y-chromosome Haplogroup I includes about a quarter of all northwest European men. Its largest subgroup, I1a, is common in Scandinavia and Germany and occurs in Britain at a frequency of about 15%. Haplogroup I1b is common in the Balkans and parts of Eastern Europe. The third major subgroup of Haplogroup I is defined by the single nucleotide polymorphism (SNP) M223, as reported by Rootsi et al (2004). Rootsi placed I-M223 as a subgroup of I1, parallel to I1a and I1b, and named it Haplogroup I1c (see **Figure 1**).

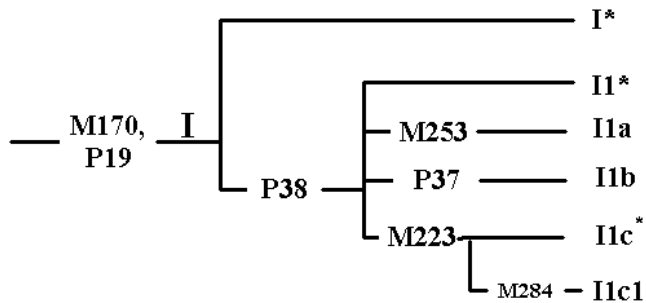


Figure 1 Phylogenetic Chart for Haplogroup I according to Rootsi et al. (2004) (simplified for clarity).

The SNP M223 had not been discovered in 2002 when the Y-Chromosome Consortium (YCC) issued the latest official version of the Y phylogenetic tree. Family Tree DNA (FTDNA) in late 2004 published a revision of the YCC-2002 structure. In this new tree, Haplogroup I-M223 was apparently assumed to be P38- and, as such, it was renamed as Haplogroup I2, as shown in **Figure 2**.

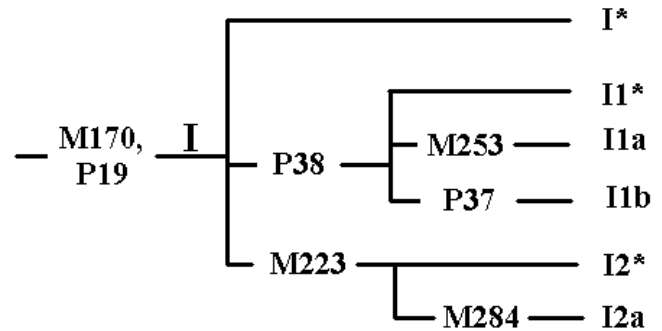


Figure 2 Haplogroup I According to FTDNA's Proposed Revision of the Y Phylogenetic Tree (simplified for clarity).

The current study presents the results of testing of SNPs in four men who were known or suspected to be members of I-M223. In all cases, they were found to be both M223+ and P38+, demonstrating that the phylogenetic structure of Haplogroup I as presented in Rootsi et al (2004) (see **Figure 1**) is correct.

Methods

Four subjects were chosen from four different surname projects where the Y-STR values suggested strongly that they were members of I-M223. Three subjects had

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