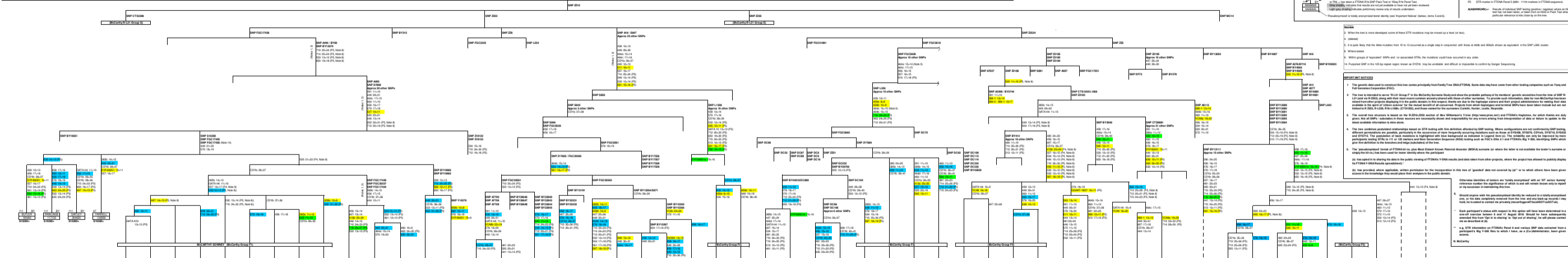


STRs Estimated ancestral haplotype for R-123 (values at CDYs and DYS 533 uncertain) FTNAPanel 1, FTNAPanel 2, FTNAPanel 3, FTNAPanel 4, FTNAPanel 5

LEGEND (a) Mutation notation: STR markers are denoted in bold type face. STR markers are denoted in light type face. The DYS of DYS-prefixed STR markers is omitted unless for all others are shown with a more detailed notation (e.g. DYS17(28)14, DYS17, YCAL6, (Y)GAAAT (80) (Y)TCT). (b) Participant name and testing details: No. of STR markers included in the analysis (e.g. Y-DNA 42 or 111 in FTNAPanel). (c) STR Mutation frequencies: Very slow moving STR markers (very low mutation rates) or very rare STR markers (slow mutation rates) are indicated by a light blue background. Slow moving STR markers (low mutation rates) are indicated by a yellow background. Fast moving STR markers (high mutation rates) are indicated by a dark blue background. (d) Other: 'A' used to denote a change in status (the allele, or no. of repeating motifs) at an STR locus. e.g. 576-18-17 indicates a mutation from 18 to 17 repeating motifs at DYS 576. Downward (↓) is used to indicate 'Year later'.



- NOTES:
1. When the tree is more developed some of these STR mutations may be moved up a level (or two).
2. (Deleted)
3. It is quite likely that the 464a mutation from 15 to 13 occurred as a single step in conjunction with those at 464b and 464c shown as equivalent in the SNP L266 cluster.
4. Where noted:
5. Within groups of 'equivalent' SNPs and / or associated STRs, the mutations could have occurred in any order.
14. Putative SNP in the 125 bp repeat region known as DYS16, may be available and difficult or impossible to confirm by Sanger Sequencing

- IMPORTANT NOTICES
1. The genetic data used to construct this tree comes principally from FamilyTreeDNA (FTNAPanel). Some data may have come from other testing companies such as 23andMe and MyHeritage (Y-DNA).
2. The tree is intended to serve 'R-L21 Group F' in the McCarthy Surname Study and show the probable pathway of the members' genetic ancestors from the time of SNP R-123 (and its R-234), along with their most recent common ancestor shared with those of other surnames. To provide such information, data for non-McCarthy has been removed from other projects displaying it in the public domain. In this respect, there are due to the haplogroup owners and their project administrators for making their data available in the spirit of 'open access' for the mutual benefit of all concerned. Projects from which haplotypes and terminal SNPs have been taken include but are not limited to R-234, R-L266, R-L267, R-L268, R-L269, R-L270, R-L271, R-L272, R-L273, R-L274, R-L275, R-L276, R-L277, R-L278, R-L279, R-L280, R-L281, R-L282, R-L283, R-L284, R-L285, R-L286, R-L287, R-L288, R-L289, R-L290, R-L291, R-L292, R-L293, R-L294, R-L295, R-L296, R-L297, R-L298, R-L299, R-L300, R-L301, R-L302, R-L303, R-L304, R-L305, R-L306, R-L307, R-L308, R-L309, R-L310, R-L311, R-L312, R-L313, R-L314, R-L315, R-L316, R-L317, R-L318, R-L319, R-L320, R-L321, R-L322, R-L323, R-L324, R-L325, R-L326, R-L327, R-L328, R-L329, R-L330, R-L331, R-L332, R-L333, R-L334, R-L335, R-L336, R-L337, R-L338, R-L339, R-L340, R-L341, R-L342, R-L343, R-L344, R-L345, R-L346, R-L347, R-L348, R-L349, R-L350, R-L351, R-L352, R-L353, R-L354, R-L355, R-L356, R-L357, R-L358, R-L359, R-L360, R-L361, R-L362, R-L363, R-L364, R-L365, R-L366, R-L367, R-L368, R-L369, R-L370, R-L371, R-L372, R-L373, R-L374, R-L375, R-L376, R-L377, R-L378, R-L379, R-L380, R-L381, R-L382, R-L383, R-L384, R-L385, R-L386, R-L387, R-L388, R-L389, R-L390, R-L391, R-L392, R-L393, R-L394, R-L395, R-L396, R-L397, R-L398, R-L399, R-L400, R-L401, R-L402, R-L403, R-L404, R-L405, R-L406, R-L407, R-L408, R-L409, R-L410, R-L411, R-L412, R-L413, R-L414, R-L415, R-L416, R-L417, R-L418, R-L419, R-L420, R-L421, R-L422, R-L423, R-L424, R-L425, R-L426, R-L427, R-L428, R-L429, R-L430, R-L431, R-L432, R-L433, R-L434, R-L435, R-L436, R-L437, R-L438, R-L439, R-L440, R-L441, R-L442, R-L443, R-L444, R-L445, R-L446, R-L447, R-L448, R-L449, R-L450, R-L451, R-L452, R-L453, R-L454, R-L455, R-L456, R-L457, R-L458, R-L459, R-L460, R-L461, R-L462, R-L463, R-L464, R-L465, R-L466, R-L467, R-L468, R-L469, R-L470, R-L471, R-L472, R-L473, R-L474, R-L475, R-L476, R-L477, R-L478, R-L479, R-L480, R-L481, R-L482, R-L483, R-L484, R-L485, R-L486, R-L487, R-L488, R-L489, R-L490, R-L491, R-L492, R-L493, R-L494, R-L495, R-L496, R-L497, R-L498, R-L499, R-L500, R-L501, R-L502, R-L503, R-L504, R-L505, R-L506, R-L507, R-L508, R-L509, R-L510, R-L511, R-L512, R-L513, R-L514, R-L515, R-L516, R-L517, R-L518, R-L519, R-L520, R-L521, R-L522, R-L523, R-L524, R-L525, R-L526, R-L527, R-L528, R-L529, R-L530, R-L531, R-L532, R-L533, R-L534, R-L535, R-L536, R-L537, R-L538, R-L539, R-L540, R-L541, R-L542, R-L543, R-L544, R-L545, R-L546, R-L547, R-L548, R-L549, R-L550, R-L551, R-L552, R-L553, R-L554, R-L555, R-L556, R-L557, R-L558, R-L559, R-L560, R-L561, R-L562, R-L563, R-L564, R-L565, R-L566, R-L567, R-L568, R-L569, R-L570, R-L571, R-L572, R-L573, R-L574, R-L575, R-L576, R-L577, R-L578, R-L579, R-L580, R-L581, R-L582, R-L583, R-L584, R-L585, R-L586, R-L587, R-L588, R-L589, R-L590, R-L591, R-L592, R-L593, R-L594, R-L595, R-L596, R-L597, R-L598, R-L599, R-L600, R-L601, R-L602, R-L603, R-L604, R-L605, R-L606, R-L607, R-L608, R-L609, R-L610, R-L611, R-L612, R-L613, R-L614, R-L615, R-L616, R-L617, R-L618, R-L619, R-L620, R-L621, R-L622, R-L623, R-L624, R-L625, R-L626, R-L627, R-L628, R-L629, R-L630, R-L631, R-L632, R-L633, R-L634, R-L635, R-L636, R-L637, R-L638, R-L639, R-L640, R-L641, R-L642, R-L643, R-L644, R-L645, R-L646, R-L647, R-L648, R-L649, R-L650, R-L651, R-L652, R-L653, R-L654, R-L655, R-L656, R-L657, R-L658, R-L659, R-L660, R-L661, R-L662, R-L663, R-L664, R-L665, R-L666, R-L667, R-L668, R-L669, R-L670, R-L671, R-L672, R-L673, R-L674, R-L675, R-L676, R-L677, R-L678, R-L679, R-L680, R-L681, R-L682, R-L683, R-L684, R-L685, R-L686, R-L687, R-L688, R-L689, R-L690, R-L691, R-L692, R-L693, R-L694, R-L695, R-L696, R-L697, R-L698, R-L699, R-L700, R-L701, R-L702, R-L703, R-L704, R-L705, R-L706, R-L707, R-L708, R-L709, R-L710, R-L711, R-L712, R-L713, R-L714, R-L715, R-L716, R-L717, R-L718, R-L719, R-L720, R-L721, R-L722, R-L723, R-L724, R-L725, R-L726, R-L727, R-L728, R-L729, R-L730, R-L731, R-L732, R-L733, R-L734, R-L735, R-L736, R-L737, R-L738, R-L739, R-L740, R-L741, R-L742, R-L743, R-L744, R-L745, R-L746, R-L747, R-L748, R-L749, R-L750, R-L751, R-L752, R-L753, R-L754, R-L755, R-L756, R-L757, R-L758, R-L759, R-L760, R-L761, R-L762, R-L763, R-L764, R-L765, R-L766, R-L767, R-L768, R-L769, R-L770, R-L771, R-L772, R-L773, R-L774, R-L775, R-L776, R-L777, R-L778, R-L779, R-L780, R-L781, R-L782, R-L783, R-L784, R-L785, R-L786, R-L787, R-L788, R-L789, R-L790, R-L791, R-L792, R-L793, R-L794, R-L795, R-L796, R-L797, R-L798, R-L799, R-L800, R-L801, R-L802, R-L803, R-L804, R-L805, R-L806, R-L807, R-L808, R-L809, R-L810, R-L811, R-L812, R-L813, R-L814, R-L815, R-L816, R-L817, R-L818, R-L819, R-L820, R-L821, R-L822, R-L823, R-L824, R-L825, R-L826, R-L827, R-L828, R-L829, R-L830, R-L831, R-L832, R-L833, R-L834, R-L835, R-L836, R-L837, R-L838, R-L839, R-L840, R-L841, R-L842, R-L843, R-L844, R-L845, R-L846, R-L847, R-L848, R-L849, R-L850, R-L851, R-L852, R-L853, R-L854, R-L855, R-L856, R-L857, R-L858, R-L859, R-L860, R-L861, R-L862, R-L863, R-L864, R-L865, R-L866, R-L867, R-L868, R-L869, R-L870, R-L871, R-L872, R-L873, R-L874, R-L875, R-L876, R-L877, R-L878, R-L879, R-L880, R-L881, R-L882, R-L883, R-L884, R-L885, R-L886, R-L887, R-L888, R-L889, R-L890, R-L891, R-L892, R-L893, R-L894, R-L895, R-L896, R-L897, R-L898, R-L899, R-L900, R-L901, R-L902, R-L903, R-L904, R-L905, R-L906, R-L907, R-L908, R-L909, R-L910, R-L911, R-L912, R-L913, R-L914, R-L915, R-L916, R-L917, R-L918, R-L919, R-L920, R-L921, R-L922, R-L923, R-L924, R-L925, R-L926, R-L927, R-L928, R-L929, R-L930, R-L931, R-L932, R-L933, R-L934, R-L935, R-L936, R-L937, R-L938, R-L939, R-L940, R-L941, R-L942, R-L943, R-L944, R-L945, R-L946, R-L947, R-L948, R-L949, R-L950, R-L951, R-L952, R-L953, R-L954, R-L955, R-L956, R-L957, R-L958, R-L959, R-L960, R-L961, R-L962, R-L963, R-L964, R-L965, R-L966, R-L967, R-L968, R-L969, R-L970, R-L971, R-L972, R-L973, R-L974, R-L975, R-L976, R-L977, R-L978, R-L979, R-L980, R-L981, R-L982, R-L983, R-L984, R-L985, R-L986, R-L987, R-L988, R-L989, R-L990, R-L991, R-L992, R-L993, R-L994, R-L995, R-L996, R-L997, R-L998, R-L999, R-L1000.

- (a) Has opted in to sharing his data in the public viewing of FTNAPanel Y-DNA results (and data taken from other projects, where the project has allowed to publicly display his FTNAPanel Y-DNA results spreadsheet).
(b) Has provided, where applicable, written permission for the incorporation in this tree of 'guarded' data not covered by 'opt in' or to which others have been given access to the knowledge they would place their analysis in the public domain.
Reference identities of testers are 'totally anonymous' with an 'X' over 'surname' or other information of the significance of which is and will remain known to myself or my successor in maintaining this tree.
Should anyone with the pseudonymized identity be reduced to a totally anonymized one, or his data completely removed from the tree and any back-up ancestor I may hold, he is asked to contact me privately (mcCarthy@att.net) so that I do not do so.
Each participant's status with respect to this option will have been determined by a one-off email between 6 and 14 August 2016. Should he have subsequently amended this from 'Opt in' to 'Opt out of sharing', he will please contact me as described at (b).
A STR information on FTNAPanel 6 and various SNP data extracted from a participant's Big Y-500 file to which I have, as a geo-Administrator, been given access.
McCarthy (Y-DNA) SURNAME STUDY
POSTULATED PHYLOGENETIC TREE FOR SNP R-234 M(j)cCARTHYS (McCarthy R-L21 Group F)
N McCarthy
14 August 2016
© COPYRIGHT 2016, Mc.CARTHY 2016