S16264 Proposed Mutation History for groups with 2 or more known haplotypes Rev.2 21-Dec-16

All known S16264+ have

DYS19 >= 15	16 may have been the original ancestral value as it is shared by 2 widely separated lines while only being present in less than 0.5% of L21

Hawks + Manns + Mills + Leprovost + Bond + Salmon Turners have

DYS464c <= 16	17 modal, 16 in Manns and 41% of L21, 15 in Hawk + Leprovost + Bond + Salmon Turners and 8% of L21. Hawk likely due to unrelated unusual 464 mutations.
DYS444 >= 13	13 is the likely ancestral value with later mutation to 14 in ancestor of Leprovost + Bond + Salmon Turners
DYS504 = 18	Grouazel, Mann, Mills and Leprovost not tested for this marker but Hawk + Bond + Salmon Turners have this value (as do 5% of L21)

Hawks have

DYS390 = 23	frequency 7% of L21 vs. modal 24
DYS389ii = 28	or (ii-i = 15) frequency 3% of L21 vs. modal 16.
DYS464 extra	range from 14-15-15-16-17 to 14-15-15-15-15-16-17. Highly unusual.
DYS576 = 16	frequency 2% of L21 vs. modal 18
DYS413a = 22	frequency 20% of L21 vs. modal 23. Also shared with Grouazel but his is most likely an independent mutation.
DYS534 = 14	frequency 13% of L21 vs. modal 15

Note there may be more shared off-modals in markers 68-111 but only one Hawk has tested these, finding 6 off-modals not shared with other groups.

Manns + Mills + Leprovost + Bond + Salmon Turners have

DYS391 = 10	frequency 32% of L21 vs. modal 11
DYS385a = 12	frequency 6% of L21 vs. modal 11. Bond has back-mutation to 11.
DYS458 = 16	frequency 16% of L21 vs. modal 17 (assuming 455 = 10 mutation has occurred only once with Mills having 458 back-mutation to 17)
DYS460 >= 12	11 modal, 12 in Manns, Mills and 9% of L21, 13 in Leprovost + Salmon Turners and 1% of L21. Bond, 1 Mann and 1 Mills has back-mutation to 11.
DYS456 = 15	Mann, Mills, Leprovost and 36% of L21 vs. modal 16. Most parsimonious tree requires a back-mutation to 16 for Bond and Turners.
DYS570 <= 16	17 modal, 16 in Mills + Leprovost + Bond + Salmon Turners and 15% of L21, 15 in Manns and 1% of L21
Y-GATA-A10 = 12	frequency 15% of L21 vs. modal 13
DYS463 = 21	frequency less than 0.5% of L21 (to date only found in this group in L21) vs. modal 24

Note there may be more shared off-modals in markers 38-111 but only 1 Mann has tested 11 out of these 74 markers
Mills and Leprovost not tested for markers 68-111 so only assumed to match GATA-A10 and DYS463 based on other men's results

Manns have

DYS439 = 11	frequency 21% of L21 vs. modal 12
DYS576 = 19	frequency 20% of L21 vs. modal 18
CDYa = 37	frequency 27% of L21 vs. modal 36
CDYb = 37	frequency 18% of L21 vs. modal 38

Note there may be more shared off-modals in markers 38-111 but only 1 Mann has tested 11 out of these 74 markers

Mills, Leprovost + Bond + Salmon Turners have

DYS455 = 10	frequency 1% of L21 vs. modal 11
DYS520 = 21	frequency 9% of L21 vs. modal 20 (no Mann tested for this marker)

Note there may be more shared off-modals in markers 68-111 but Mills and Leprovost have not tested these

Mills have

DYS385b = 15	frequency 17% of L21 vs. modal 14
DYS389i = 14	frequency 14% of L21 vs. modal 13. Hence Mills DYS385ii = 30 with i-ii constant at 16.
DYS449 = 30	frequency 41% of L21 vs. modal 29 (29 is P312 modal, 30 is L21 modal) **
DYS576 = 17	frequency 21% of L21 vs. modal 18
CDYa = 35	frequency 12% of L21 vs. modal 36
CDYb = 39	frequency 26% of L21 vs. modal 38

Note there may be more shared off-modals in markers 68-111 but Mills have not tested these

Leprovost + Bond + Salmon Turners have

DYS464d = 15	frequency 1% of L21 vs. modal 17

Note there may be more shared off-modals in markers 68-111 but Leprovost has not tested these

Bond + Salmon Turners have

DYS393 = 12	frequency 2% of L21 vs. modal 13
DYS439 = 13	frequency 13% of L21 vs. modal 12
DYS464a = 14	frequency 11% of L21 vs. modal 15
CDYb = 36	frequency 6% of L21 vs. modal 38
DYS446 = 14	frequency 16% of L21 vs. modal 13
DYS710 = 34	frequency 24% of L21 vs. modal 37 (37 is P312 modal, 34 is L21 modal - a highly variable SNP) **
DYS540 = 13	frequency 4% of L21 vs. modal 12 **
DYS714 = 25	frequency 41% of L21 vs. modal 26 (26 is P312 modal - another highly variable SNP) **
DYS505 = 13	frequency 8% of L21 vs. modal 12 **
DYS522 = 11	frequency 79% of L21 vs. modal 10 (10 is P312 modal - another variable SNP) **
DYS650 = 20	frequency 12% of L21 vs. modal 19 **
DYS561 = 16	frequency 15% of L21 vs. modal 15 **

** Mann and Leprovost not tested for these markers

Salmon Turners have

DYS390 = 23	frequency 7% of L21 vs. modal 24
CDYa = 34	frequency 3% of L21 vs. modal 36