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A Nine STR Locus Match Between Two Apparently Unrelated Individuals Using  
AmpF/STR® Profiler Plus™ and COfiler™

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### ABSTRACT

The Arizona Department of Public Safety Crime Laboratory is reporting a nine STR locus match between two apparently unrelated individuals at vWA, D21S11, D5S818, D13S317, D7S820, D16S539, TH01, TPOX, and CSF1PO. The samples were analyzed by Myriad Genetic Laboratories, using Applied Biosystem's AmpF $\ell$ STR $^{\circ}$  Profiler Plus $^{\text{TM}}$  and COfiler $^{\text{TM}}$  kits. The nine STR locus match was discovered during a duplicate search by Myriad Genetic Laboratories. Further investigation by the Arizona Department of Public Safety revealed that one offender is Caucasian while the other offender is Black. In addition, it was noted that the two offenders share one allele at three of the remaining four loci, D3S1358, D8S1179, and D18S51. The match was confirmed with Applied Biosystem's AmpF $\ell$ STR $^{\circ}$  Identifier $^{\text{TM}}$  kit.

### METHOD

DNA was extracted from 3.0  $\mu$ l of liquid blood with Chelex. The samples were amplified using a 9500 thermal cycler with the Applied Biosystem's AmpF $\ell$ STR $^{\circ}$  Identifier $^{\text{TM}}$  kit (25  $\mu$ l reaction volume). The samples were analyzed on the ABI Prism 310 Genetic Analyzer.

### RESULTS

The two convicted offender samples were found to match at nine loci. Using the FBI Popstats database, the frequency of this nine locus profile is as follows:

- 1 in 754,100,000 Caucasians
- 1 in 561,500,000 African Americans
- 1 in 2,376,000,000 Southeast Hispanics
- 1 in 113,500,000,000 Southwest Hispanics

Allele Comparison Chart Between Two Unrelated Individuals with a Nine Locus Match

	AB015	AF630
D8S1179	12,14	12,16
D21S11	28,30	28,30
D7S820	9,10	9,10
CSF1PC	10,11	10,11
D3S1358	16,17	14,17
TH01	8,9	8,9
D13S317	11,12	11,12
D16S539	11,13	11,13
D2S1338	23,24	17,19
D19S433	14,14	13,14.2
vWA	16,17	16,17
TPOX	8,9	8,9
D18S51	15,16	15,18
Amelogenin	X,Y	X,Y
D5S818	12,12	12,12
FGA	22,23	21,21

## REFERENCES

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AmpFSTR<sup>®</sup> Identifier<sup>™</sup> PCR Amplification Kit User's Manual, Applied Biosystems, 2001.

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