Reproducibility and Concordance – 5s

Allele calls matched and RFU values were similar

Sensitivity – 5s, 10s, 15s

Optimal input DNA concentration for 5s is 2.0-0.250ng, for 10s is 1.0-0.250ng, and for 15s is 0.50-0.125ng (Figure 1)

Precision and Contamination – 5s

The average standard deviation ranged from 0.045–0.152

Figure 2: Size deviation of the 19 alleles of locus DYS385 from 24 samples

Male-Female Mixtures – 5s

• Full male profiles obtained from the 1:1 and 1:1.1 ratio
• Partial profiles obtained from the 1:100, average of 6 loci

Stutter – 5s

• 727 data points were used, with 512 for minus stutter and 215 for plus stutter

• 10 of 18 calculated values greater than published values

• Concluded to go with the published values because they are more conservative

Conclusion

• Threshold set at 150 RFU for 5s and 10s injection time and 200 RFU for a 15s injection time

• Optimal input DNA concentration for 5s is 2.0-0.250ng, for 10s is 1.0-0.250ng, and for 15s is 0.50-0.125ng

• Results are reproducible and concordant

• No contamination and is precise

• Full minor male profiles obtained for 1:1-5:1 and 1:1.1 male-male ratios with partial profiles for 1:5

• Full male profiles for the 1:1 and 1:1:1:1 ratios with partial profiles for 1:100

• Use published stutter values from Life Technologies™

• Successfully validated for the Prince George's County Police Department Serology/DNA Laboratory