

DETECTION OF Y-STR LOCI IN A MALE/FEMALE MIXED SPECIMEN STUDY

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Casework samples that may be appropriate for Y-STR testing often consist of a large amount of female DNA and lesser amounts of male DNA. A study was done to determine the maximum amount of female DNA that can be added to a Y-STR amplification reaction without inhibiting amplification, using Y-PLEX™6 and

Y-PLEX™5 PCR amplification kits, from Reliagene Technologies, Inc. (New Orleans, LA), and a prototype of PowerPlex® Y System from Promega Corporation (Madison, WI).

Six known male and female DNA samples were extracted and quantitated. Mixture combinations of the extracted DNA were made using the following ratios: 1:1, 1:10, 1:50, 1:100, 1:500, 1:1000, 1:4000 for a total of 6 sets of mixtures. Also 4000ng of the three female DNA samples were amplified without any male component added. The male component was kept constant at 1ng.

All samples typed in this study yielded correct profiles, with no additional peaks other than those attributable to female DNA artifacts. Peak heights for the male DNA alleles were noted for all mixtures. Results of this will be presented in this poster.