

Performance of the PowerPlex® 18D System, a Direct Amplification STR System with Reduced Thermal Cycling Time

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Time and labor savings continue to be key goals for database and paternity labs because reductions in processing time can allow increased sample throughput. Significant savings of both time and labor can be achieved by eliminating sample purification and amplifying sample directly from blood or buccal samples on FTA® cards. The PowerPlex® 18D System has been developed for direct amplification of buccal or blood samples on FTA® cards. The five-color system contains primers for amplification and genotyping of 17 STR loci (D3S1358, THO1, D21S11, D18S51, Penta E, D5S818, D13S317, D7S820, D16S539, CSF1PO, Penta D, vWA, D8S1179, TPOX, FGA, D2S1338, and D19S433) as well as amelogenin, encompassing the full 13 CODIS loci. The system is compatible with the Applied Biosystems 3100, 3130 and 3500 Genetic Analyzer instruments. With approximately 1 hour total thermal cycling time, the PowerPlex® 18D System offers further time savings. Studies will be presented comparing punch size, cycle number and sample type. The PowerPlex® 18D System is robust and has been shown to accommodate a wide range of input sample.