POWERPLEX® ESI FAST AND ESX FAST SYSTEMS

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The need for forensic laboratories to obtain more information in significantly less time from their STR analyses has increased steadily in recent years. The PowerPlex® ESI Fast and ESX Fast Systems are faster cycling versions of the PowerPlex® ESI and ESX Systems released by Promega in 2009 to accommodate the ENFSI and EDNAP groups' call for new European STR multiplexes. Both configurations are available with and without primers for amplification of the SE33 locus. The complimentary configuration of mini-STRs in the PowerPlex® ESI Fast and ESX Fast Systems allows for recovery of more information from degraded samples. In addition to amplification of purified DNA samples, these systems also allow for direct amplification from single-source blood and buccal samples deposited on FTA® and nonFTA paper as well as from SwabSolution™ extracts of buccal swabs. Thermal cycling takes place in as little as 50 minutes with purified DNA samples and 45 minutes for direct-amplification using "non-rapid cyclers" such as the GeneAmp® PCR System 9700 thermal cycler. There are no changes to the autosomal primer pair sequences in the PowerPlex® ESI Fast and ESX Fast Systems and full concordance at all autosomal loci and amelogenin is observed with the original PowerPlex® ESI and ESX Systems.

We will present data demonstrating sensitivity, resistance to inhibitors, concordance, stutter, direct-amplification and ability to generate profiles from degraded DNA samples with these new fast cycling systems.