

DEVELOPMENT OF THE POWERPLEX® FUSION SYSTEM

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The PowerPlex® Fusion System includes all the loci in Section A of the proposed expanded CODIS core loci (D.R. Hares, Addendum to expanding the CODIS core loci in the United States, Forensic Sci. Int. Genet. 6 (2012) e135.). It also includes two loci from CODIS Section B (TPOX and D22S1045) and two highly polymorphic pentanucleotide loci, Penta E and Penta D. These Penta loci have been used worldwide for more than 10 years, and are included in greater than one million profiles in the CODIS database. The system is based upon the same proven five color chemistry used in several of the systems Promega introduced in the last two years. This allows for use of the kits on the Applied Biosystems 31xx and 3500 series Genetic Analyzers. The combination of these 23 STR loci and Amelogenin make this multiplex an effective tool for human identification. The PowerPlex® Fusion System is optimized for extracted DNA, but allows for direct amplification from samples on FTA® paper (GE Healthcare/Whatman). It can be used in combination with Promega's PunchSolution™ Kit to amplify samples on other paper substrates or with Promega's SwabSolution™ Kit for buccal swabs. The system employs rapid cycling (one hour thirty minutes) providing significant time savings. ☞