DNAstable® LD VALIDATION PROJECT

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DNAstable ® LD (liquid-to-dry) was validated for the long-term storage of DNA extracts from criminal cases in Alaska. Historically, DNA extracts at the Alaska Scientific Crime Detection Laboratory were stored at -80°C. DNAstable ® LD was investigated as an alternative to freezer storage of DNA extracts to save costs on purchasing, running and maintaining additional -80°C freezers. DNAstable ® LD is a proprietary liquid that is added to DNA extracts, which are then dried and stored at room temperature. DNAstable® protects the DNA by forming a protective seal around the DNA during the drying process (Biomatrica's DNAstable ®/DNAstable ® LD Handbook, 2012). Results from this validation study support the claim that DNAstable ® LD acts to protect DNA from degradation when exposed to simulated harsh environments (54°C), and proved to be beneficial for maintaining the quality and quantity of low-level DNA samples (< 0.05 ng/µl DNA). Samples with sufficient quantities of DNA commonly encountered in forensics (≥ 0.20 ng/µl) performed similarly with respect to DNA recovery and amplification success using Promega's PowerPlex ®16 with or without DNAstable ® LD stored dry at room temperature or stored as a liquid frozen at -20°C.