THE USE OF A SINGLE NUCLEOTIDE POLYMORPHISM (SNP) MARKER PANEL FOR HUMAN IDENTIFICATION FROM COMPROMISED BIOLOGICAL SPECIMENS

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The analysis of DNA samples recovered from compromised biological remains presents some interesting challenges and opportunities for the forensic science community. A panel of single nucleotide polymorphism (SNP) markers has been designed to be effective on biological specimens whose DNA has undergone extensive degradation. Our laboratory has developed an automated, ultra-high throughput system called SNPstream® UHT that utilizes multiplexed PCR in conjunction with SNP-IT™, Orchid's proprietary single base extension technology. Microarrays used in this system enable multiplexed assays that generate cost-effective, accurate results. Preliminary results indicate that biological specimens that are extremely degraded (only amelogenin can be observed) can be amplified and genotyped using this forensics SNP marker set. The criteria used for marker panel selection and data generated from a variety of forensic specimens will be presented.