

**THE VALIDATION AND IMPLEMENTATION OF THE BIOMEKÒ 2000 LABORATORY
AUTOMATION WORKSTATION USING THE PROMEGA DNA IQÒ SYSTEM FOR
EXTRACTING DNA FROM ORAL SWABS**

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The Armed Forces DNA Identification Laboratory was challenged to improve upon its high-through-put system by modifying the extraction protocol so that a consistent DNA yield was obtained for all samples, circumventing the need for a quantification and normalization system. Originally, the high-through-put system processed samples using the Qiagen BioRobot 9604 for extraction, the Corbett Robotics CAS-1200 for amplification, and the ABI 3100 Genetic Analyzer for fluorescent-detection. When amplifying samples, 5ml of extract was used to successfully obtain PowerPlexÒ 16 profiles for the entire range of DNA yields. Although highly effective, 10-15% of the samples had to either be reinjected due to excessively high pull up peaks in all color channels that in some cases prevented the ILS 225bp peak from being correctly sized or retyped and reinjected at longer times to bring loci above threshold. In an attempt to obtain more consistent DNA yields across multiple samples, the BioMekÒ 2000 Laboratory Automation Workstation coupled with the Promega DNA IQÒ System was assessed. DNA IQÒ was chosen based on the ability of the extractions system to bind 1-4ng/ml of DNA in a 100ml elution volume. This poster will address the validation of the BioMekÒ2000 and DNA IQÒ and include program modifications to extract 91 samples, contamination studies and profile success.