

VALIDATION OF THE BECKMAN COULTER BIOMEK® 2000 DNA IQ™ / ALUQUANT™ SYSTEM

Kari S. Yoshida, MSFS, Michelle R. Madrid, MS, Gisele M. LaVigne, BA
Los Angeles County Sheriff's Department, Los Angeles, CA



High throughput of biological forensic casework has always been a priority since backlog is a commonplace issue among crime labs. The incorporation of automated systems within laboratories has been a proposed solution to casework overload. The Los Angeles County Sheriff's Department is in the process of validating the Beckman Coulter Biomek® 2000 robot for DNA extraction and quantitation of casework samples using the DNA IQ™ and AluQuant™ systems by Promega. Organic extraction/slot blot quantitation of simulated casework samples (blood stains, buccal swabs, mixed stains, and hair roots) were compared with the automated DNA IQ™ extraction/AluQuant™ quantitation. Problematic samples including chewing gum and cigarette butts were also evaluated. Contamination and sensitivity studies were conducted using blank sample racks and serially diluted bloodstains, respectively. The Biomek® 2000 robot - DNA IQ™ and AluQuant™ system has shown to serve as a potential platform for the advancement in improving the efficiency in the examination of DNA casework.