

## **SIMPLE DNA EXTRACTION OF URINE SAMPLES: EFFECTS OF STORAGE TEMPERATURE AND STORAGE TIME**

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In forensic casework, identification of the urine sample source may be necessary if sample mishandling is suspected. A quick and simple deoxyribonucleic acid (DNA) extraction procedure suitable for short tandem repeat (STR) typing of urine samples was established on the Promega Maxwell® 16 instrument. Successful genotyping was achieved from a small starting volume of 1.7 mL of urine sample. The present study also investigated the influence of storage conditions, such as temperature and time, on the quantity of DNA extracted as well as the success rate of STR typing, assessed by the percentage of alleles detected. DNA yield was observed to be greater in female than in male samples. Samples stored at room temperature exhibited a faster decline in DNA yield with elapsed time as compared to those stored at 4°C and -20°C. Samples stored at both 4°C and -20°C had higher typing success rates than that of samples stored at room temperature. This trend was observed up to 100 days of storage. The low DNA yield and low typeability for urine samples stored at room temperature for 100 days are most likely attributed to DNA degradation. In conclusion, this study presents a simple and effective DNA extraction protocol from a small volume of urine stored for up to 100 days at 4°C and -20°C.