

FORENSIC CASEWORK EXPERIENCE: FTA® BLOODSTAIN CARD AS A MATRIX FOR BLOOD SAMPLES FROM FRESH AND DECOMPOSED BODIES

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Human identification and forensic criminal casework may involved DNA profiling of decomposed bodies. The purpose of this study was to investigate the potential of the FTA® bloodstain card as a matrix medium for blood samples obtained from decomposed bodies.

Twenty legal autopsy cases with, and twenty without visible signs of postmortal decomposition were collected in our department and DNA was extracted from the FTA® cards. We have examined two forensic multiplex systems (PE Biosystems). The first, designed as Ampf/STR™ SGM Plus, combines the STR loci D3S1358, vWA, D16S539, D2S1338, D8S1179, D21S11, D18S51, D19S433, TH01, FGA, and amelogenin. The second, Ampf/STR Profiler™ combines the STR loci D3S1358, vWA, FGA, TH01, TPOX, CSF1PO, D5S818, D13S1317, D7S820, and amelogenin.

Studies were carried out using variation in micro-punch size to determine the best size/volume ratio for amplification. As an additional purification procedure QIAquick (Qiagen, Inc.) purification system was used. Quality of results was judged by considering a number of factors – condition of baseline, peak height across loci, presence of non-specific bands, stutter-bands, etc.

In conclusion, FTA® card as an extraction medium in combination with QIAquick purification system is suitable in human identification, forensic casework and paternity testing dealing with blood samples from heavily decomposed bodies.