



Criminalistics Section – 2004

B50 Comparison of DNA Stability Stored on Treated and Untreated Papers

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After attending this presentation, attendees will have knowledge of DNA stability over time on FTA treated paper v untreated filter paper. The attendee will make an informed decision of how to store DNA for long periods of time.

This presentation will impact the forensic community and/or humanity by providing data on the various options of long term DNA storage.

In forensics, the integrity of the sample DNA is crucial for successful analysis. Often, DNA is collected by applying samples (blood, saliva, tissue, etc...) to chemically treated papers such as FTA® or untreated papers such as 3MM or 903®. These papers are a convenient medium for collecting DNA: cells are lysed on contact with the paper and DNA is bound to the matrix. Sample DNA on the treated paper is stabilized and protected against degradation. Samples may be kept at room temperature for long periods of time and are easily made ready for analysis by PCR based amplification. Up to this time, there has been no systematic analysis of the integrity of DNA samples stored on the treated vs. untreated papers.

Here we present data showing that FTA®-treated paper provides greater protection of genomic DNA from degradation than untreated papers. This increased protection was consistent and was observed within hours of application and up to 180 days after sample application. This protection is seen in samples whether stored at room temperature, at -20 °C or at 37 °C with high humidity. These results demonstrate that DNA stored on FTA is safe for long-term storage thus increasing the probability of obtaining reliable testing results.

DNA Stability, Treated Filters, FTA