Whatman NaOH Elution Procedure
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Alkaline Extraction of DNA from FTA® Paper Spotted with Buccal Epithelial Cells and Whole Blood

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FTA® technology has proven to be a reliable and cost effective means of collecting, transporting, and archiving DNA from a variety of biological samples. Simple procedures have been developed for the purification and amplification of samples stored on FTA®. PCR and other molecular procedures can be performed utilizing DNA entrapped within the FTA® Paper; however, high throughput processes involving automation would be more effective using eluted DNA. The elution of DNA from FTA® by endonuclease digestion was previously developed, allowing for the efficient amplification of the core STR loci used in human identification. However, endonuclease digestion increases sample preparation time and cost and is limited to certain amplicons. A new, simplified method was developed which provides a rapid and cost effective means of eluting DNA. The procedure involves two short incubations: first with an extraction solution, to release the entrapped DNA, followed by a neutralizing solution. Real-time PCR was used to quantitate the amount of DNA recovered from a variety of samples stored on FTA®. The amount recovered varied with the sample type (blood vs. buccal cells) and length of storage. In all cases, ample DNA was recovered for multiple amplifications, resulting in high quality STR profiles. This cost effective procedure for eluting DNA from different sample types stored on FTA® is easily automatable and is useful for a variety of analytical procedures, including human identification.