COMPARISON OF DNA IQ™ CASEWORK PRO KIT AND ORGANIC EXTRACTION METHODS ON SUPER GLUE FUMED ITEMS

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Recovery of touch DNA from forensic evidence has become more common as technology has advanced. Often, evidence containing touch DNA is analyzed for fingerprints using various methods, including cyanoacrylate (super glue) fuming prior to DNA analysis. The purpose of this study is to compare automated extraction using DNA IQ™ Casework Pro Kit for Maxwell® 16 with organic extraction to recover touch DNA from items that have been fumed with cyanoacrylate.

In this controlled study, the types of items fumed included various tools and common office supplies made of different materials such as wood, metal, plastic, and rubber. Each item was cleaned to remove any existing DNA and then handled by one individual, leaving behind fingerprints. The items were fumed for both twenty minutes and one hour in an Air Science Safe Fume hood using Sirchie Omega Print Cyanoacrylate. Swabs collected from the items were extracted using both methods. The samples were quantified using the Applied Biosystems Quantifiler® Duo kit and amplified with Promega PowerPlex Fusion® System.

In terms of DNA recovery, there was no significant difference between DNA IQ™ Casework Pro Kit for Maxwell® 16 and organic extraction. A full or partial DNA profile was obtained from all of the items with the exception of one. As both extraction methods are successful in recovering touch DNA from these items, either method can be used in processing touch DNA from evidence items processed with cyanoacrylate.