Materials and Methods that Allow Fingerprint Analysis *and* DNA Profiling from the Same Latent Evidence
Step by Step Laboratory Protocol

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Independent Forensics
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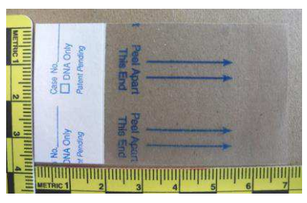
1. Collect *all* the Evidence

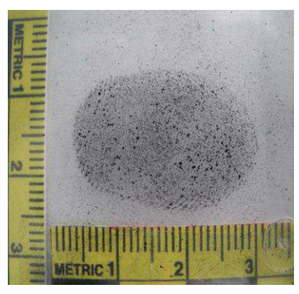
"Fingerprint & DNA" lift card



Lift card with hinged transparent liner. Easy opening tab on short side of card. Liner protects lifted print and allow easy access to biological material

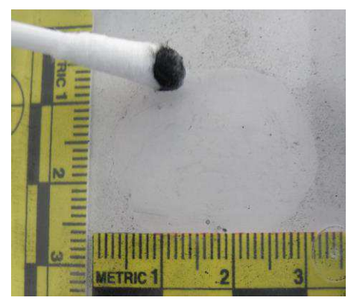
Enhanced latent (starting material)

'Fingerprint' is lifted onto SIRCHIE/IFI lift card with transparent liner.



'Unlifted' biological material left behind on evidence.

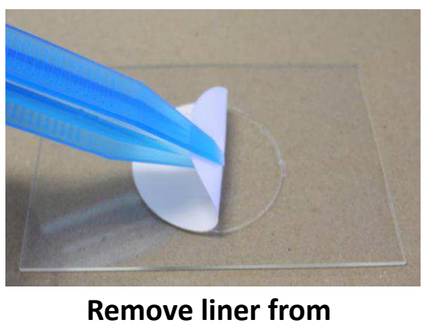
'No DNA Left Behind"



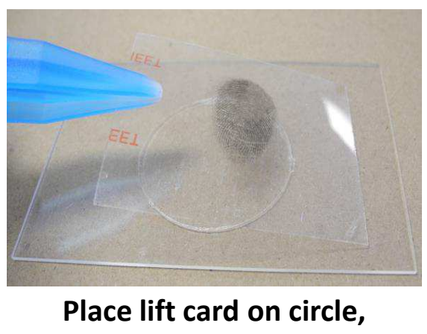
Unlifted' biological material collected on swab. Retained for later extraction

2. Extract and Purifiy DNA from Adhesive Evidence (lift card, duct tape, sticky tape, etc.,)

A] Immobilize lift card on bottom of lysis chamber

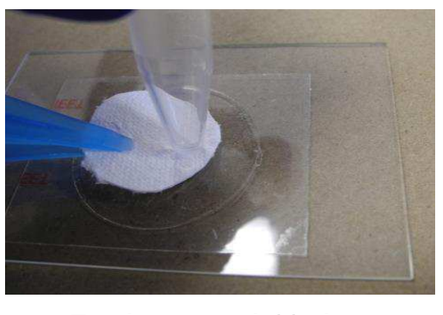


Remove liner from immobilizing circle



Place lift card on circle, adhesive layer facing up

B] Cover adhesive with Taming Material

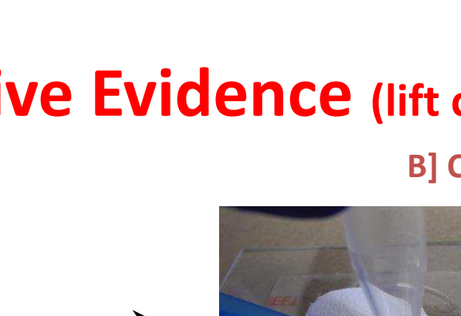


Taming material being applied to adhesive

Adhesive layer is now hydrophilic

C] Extract DNA from Adhesive Layer

Add lysis buffer to immobilized, covered fingerprint



Add O-ring, cover and binder clips to form Lysis Chamber

Assembled chamber is incubated at 56°C for 1 hour.

D] Combine all the biological fingerprint evidence

Use reserved swab from (1.), collect extract from Lysis Chamber

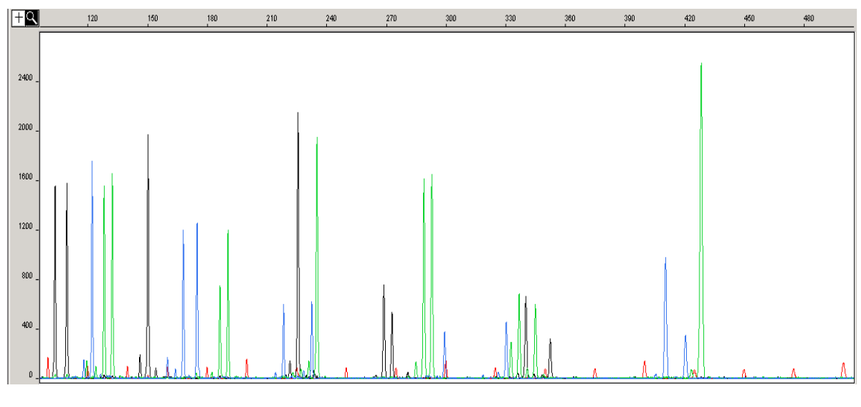
E] Combined biological fingerprint evidence is extracted

Combined lysate and No DNA Left Behind material is recovered via spin-basket, and extracted at 56°C for 1 hour

F] DNA Purification on Xs (subtractive) Column

Note retained fingerprint powder on column, purified lysates

Can concentrate lysate (Centricon or SpeedVac), PCR amplify using kit of your choice.



GeneScan electropherogram of PowerPlex 16 PCR reaction after concentration of purified lysate.

3. Analyze *ALL* of your data; post PCR purification & concentration (*AmpliconRx™*)

PCR Reaction
+
Binding Buffer
↓
load on column
↓
Spin 3 min
[Discard run through]
+
Formamide + LIZ/ROX
[Incubate 5 min, RT °C]
↓
Spin 2 min
↓
Load Elution on CE

PCR samples that show partial profile are subjected to post-PCR purification and concentration using *AmpliconRx™* kit

Up to 15X more CE signal