

Case Summary – touch DNA from brick

Case Synopsis

Homicide due to blunt force trauma. In late July 2014, a deceased male was found on a small farm road in a suburban area of a large Chinese city. At the crime scene, a red brick with blood stains was found near the victim. Investigators concluded the victim was killed by the red brick.

Challenge:

Due to a significant amount of victim blood on the brick, the double swab collection method could only collect the DNA information of the victim. The investigators tried to swab the areas of the brick void of the victim's blood with negative results. The surface of the brick was porous and difficult to collect the DNA evidence, contributing to the negative results.

Processing:

The areas of the brick that were visually free of victim blood were processed with the M-Vac wet-vacuum collection system. Approximately 200 mL of sterile surface rinse solution was sprayed down and collected from the brick surface. The liquid was then concentrated using a 0.45 micrometer Nalgene disposable filter apparatus. The filter was covered, labeled and set aside to dry using standard chain of custody practices.

Laboratory Processing:

The evidence filter was removed from the filter apparatus and cut into small pieces with a sterile scalpel. The substrate was then processed using a QIAGEN Silicone membrane extraction kit M48 to extract the DNA collected. And The extracted DNA was amplified with Life Technologies AmpF ℓ STR $\text{\textcircled{R}}$ Identifiler $\text{\textcircled{R}}$ Plus PCR Amplification Kit.

Results:

A high quality DNA mixture was obtained. DNA analysis resulted in positive identification of the victim and another male suspect. The DNA profile was compared to the DNA database in China, resulting in a positive match and subsequent arrest of a male suspect. The suspect profile generated by the M-Vac System was a significant part of the evidence used to gain a confession. The case was concluded.