# FORENSIC DNA ISOLATION FROM ROOT HAIR WITH THE NOVEL DNA IQ™ TECHNOLOGY

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## Case 1

Introduction: There are times when we as researchers in a molecular genetic laboratory have a big pressure in criminal cases to obtain DNA profiles from very bad evidence. Extreme situations are when the police had only a few hairs, in general collected from the hand of the victim, of course it is necessary to separate the hair with and without root. Using the traditional phenol/chloroform technique extraction it is very difficult to do with a few hairs. We have tried the DNA IQ™ system to obtain DNA from less than three hairs, with very good results.

## Case 2

This case was an extreme violence assault, where the wife of a commercial shopping mall owner died, and the man was injured too. The criminal escaped and the police had little information on the case, only that the men evidently recognized a foreign accent in the assailant.

The next hours the police captured one man; he denied an involvement in the criminal act. One alert policeman noted a small dark stain in his jeans. He also examined the shoes. According to our laws the prosecutor cannot detain an arrestee for more than 48 hours; it is in this condition, under time pressure, that the laboratory performed the test.

The laboratory performed the DNA isolation with the DNA IQ™ system according to the protocol of Promega, DNA was recovered only from the jeans, and perhaps the prepared lysis buffer at high temperature affected the DNA recovery from the synthetic material of the shoe.

Blood samples from the victims is collected on FTA cards; both techniques are quick, in addition the DNA IQ™ system delivers a consistent amount of DNA.

PCR amplification: we had to use 2.5µl of the DNA solution in a total volume of 25µl master mix, the Silver STR III Triplex was performed, a genetic profile was obtained.