

## **EVALUATION OF THE PERFORMANCE OF COMMERCIAL KITS FOR THE RAPID GENERATION OF DNA PROFILES**

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A current challenge facing forensic genetic laboratories in Switzerland is to rapidly generate DNA profiles for database searches during the time that suspects are being held in custody. Suspects may be detained for up to 72 hours and it is often the case that, due to administrative reasons, there is a certain delay before a sample for DNA analysis is taken. The time available for the laboratory can be thus dramatically reduced. The developing RAPID DNA analysis instruments have the advantage that the analysis can be performed at the custody suite but they do have severe limitations due to costs.

In Switzerland the forensic genetic laboratory are present or within easy reach of all the major urban areas so the implementation of a laboratory based system to rapidly process samples is an achievable objective. Initial tests in our laboratory show that the generation of DNA profiles in duplicate from buccal swab samples is achievable in just over three hours. As there are an increasing number of Kits featuring direct amplification with shortened PCR conditions available, we have decided to test and compare the efficacy of these kits. In addition to rapidly processing buccal swab samples, we have compared the direct amplification of Saliva from samples collected by Copan 4N6 Flocked Swabs as well as on FTA and S&S903 paper.

We present here the results of a direct comparison of these kits regarding sensitivity and robustness. In addition, with the view to rapidly processing case work samples, the results of the evaluation of these kits under the influence of inhibitors (Hematin, Humic Acid and Tannic Acid) will be presented.