



**P-71 Application of BioRobot M48 to forensic DNA extraction**

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The development of a nucleic acid extraction method based on magnetic separation has opened up possibilities of full automation of DNA extraction. BioRobot M 48 is a robotic station applicable to automated DNA extraction in forensics. However, each new method should be thoroughly validated before application to routine casework. Our aim was to compare the effectiveness of the currently utilized organic Microcon 100 based extraction procedure and magnetic extraction with BioRobot M48. The DNA concentration of DNA extracts obtained from different kinds of typical forensic material was evaluated followed by amplification with the SGM Plus kit and capillary electrophoresis using ABI 3100 A. A performed validation confirmed that in the case of regular traces, results obtained with both manual and automated methods were equally robust. DNA concentrations obtained for corresponding samples were significantly lower in the case of magnetic DNA extraction, but this did not affect the ultimate result. However, our experiments showed that in the case of heavily degraded samples and bone material better results are obtained with the standard organic method. We can conclude that BioRobot M48 is a very effective instrument for DNA extraction from most specimens and can be successfully applied in forensic laboratories.

**P-72 Using the new Phadebas® Forensic paper to find crimescene saliva stains suitable for DNA analysis**

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The Phadebas® Forensic paper is a new, commercially available product that detects saliva stains by reacting with amylase. When the paper is pressed against a positive saliva stain a blue spot occurs. To test the sensitivity of the paper, a set of dilution series (1:1, 1:5, 1:50, 1:100, 1:200, 1:500) was prepared on cotton fabric. Blue spots could be seen for dilutions of 1:100 when incubated at room temperature, and 1:200 in 37°C. However, incubation at room temperature provided a better reproducibility between runs compared to 37°C. The Phadebas® Forensic paper was compared to four different fluorescent lightsources, Quaser 2000/30, Crimescope® CS-16, Polilight® and Labino® UV Spotlight, with respect to the ability of finding known saliva stains (1:1, 1:5, 1:25, 1:100) on different materials. The materials tested were cotton fabric (T-shirt), denim, suede, leather, painted wood and untreated wood. On denim, no stains could be seen with the lightsources, but with the Phadebas® Forensic paper stains were visible for both pure saliva and a 1:5 dilution. DNA analysis (AmpFISTR® SGM Plus™) was performed on both the detected stains on the different materials and on the corresponding spots on the Phadebas® Forensic paper.