

**EVALUATION OF THE EPICENTRE QUICKEXTRACT™ DNA EXTRACTION SOLUTION
FOR DNA EXTRACTION FROM BUCCAL, BLOOD, AND SEXUAL ASSAULT SWABS**

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As advertised, the QuickExtract™ DNA Extraction Solution from Epicentre permits processing of samples using an extremely simplified protocol. To obtain PCR-ready DNA from buccal swab samples, one simply rotates the sample swab in a tube of Quick Extract™ solution, mixes and heats; no centrifugation step, or organic solvent extraction is required, allowing for a very brief handling time. As advertised, DNA yields obtained using this solution are high, ranging from 1-7 µg of DNA per buccal sample.

Here we report evaluation of the Epicentre QuickExtract™ DNA extraction solution for DNA extraction from buccal and blood samples, and adaptation of the protocol for differential extraction of sperm and epithelial cells contained on sexual assault type swabs. DNA yields obtained with Epicentre QuickExtract™ solution were compared to those obtained using a standard organic DNA extraction method. Extracted DNA was amplified and typed using the Applied Biosystems AmpF/STR® Profiler Plus® kit and results for both methods compared for accuracy, signal balance and strength, and potential artifacts.

Our results indicate that yields of DNA obtained with the QuickExtract™ solution, for all of the sample types tested, were as good or better than yields obtained using a standard organic extraction. For high yield DNA samples, such as buccal and blood, DNA could be directly amplified without further purification. For sexual assault type swabs, in cases where the DNA recovery was low, it was necessary to perform dialysis/concentration with Centricon/Microcon devices before PCR, as adding more than approximately 2-3ul of the QuickExtract™ solution to amplification reactions resulted in inhibition. In all cases the PCR results obtained with DNA extracted with QuickExtract™ were indistinguishable from those obtained with DNA extracted using the organic procedure.