

## Case study - Hair

### A Rapid Extraction Method for Alcohol Markers from Hair Samples.

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#### Introduction

The 2014 Society of Hair Testing (SoHT) consensus has highlighted EtG as the first choice marker for abstinence assessment and also for proving chronic excessive alcohol consumption in child custody cases. Currently EtG samples are incubated in a sonication bath overnight to extract the analytes from the hair samples, meaning that turnaround time is significantly increased compared to other assays within the laboratory.

#### Overview

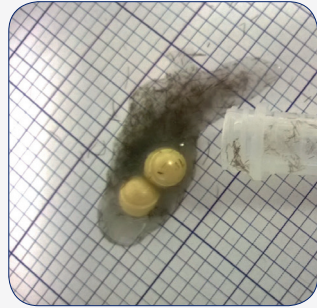
- **Keywords:** Hair grinding, ETG extraction, toxicology, GCMS
- **Aim of the study:** Ethyl Glucuronide extraction from hair samples
- **Application:** LC-MSMS
- **Sample name:** Hair
- **Material:** FastPrep-24™ instrument, steel and/or ceramic banded beads
- **Buffer:** Deionised water

#### Protocol and Parameters

1. Cut 75 mg of hair samples into 3-6 cm sections
2. Put the cutted hair samples into 2 ml tubes containing steel and/ or ceramic beads
3. Add deionized water
4. Load the tubes in the FastPrep-24™ instrument and process 2 x 1 min at speed setting of 6.0 m/s

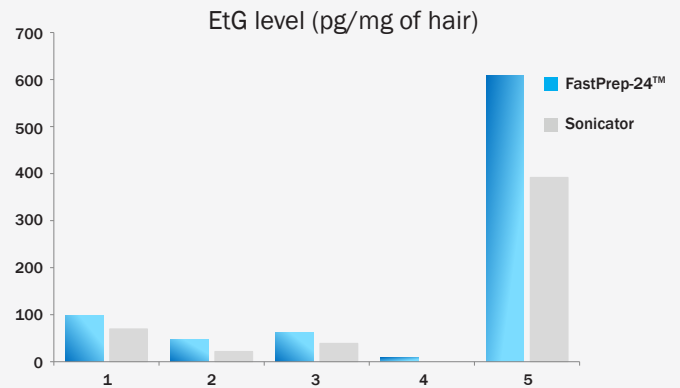
## Results

### More Effective results for downstream application



Standard method (chopped hair) vs. Grinded hair

### Up to 114% improved EtG Recovery over a Sonicator!



## Conclusion

- The use of a Fastprep-24™ bench homogenizer reduce the extraction time for Ethyl Glucuronide (EtG) from overnight to just 40 seconds in hair samples.
- Grinding hair samples with the FastPrep-24™ system has a clear advantage over simply cutting hair in terms of EtG recovery.
- The added cost of consumables and equipment is mitigated by the dramatic reduction in extraction time and improvement in customer service.

Successful sample preparation using the MP Biomedicals FastPrep® product line has been highlighted in thousands of scientific articles. To access articles and other materials, visit [www.mpbio.com/FastPrepLibrary](http://www.mpbio.com/FastPrepLibrary).

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