

Drug extraction from whole brain rat with Minilys PharmOptima, Portage MI, USA

CONTEXT

PharmOptima focuses **in vivo and in vitro DM&PK and Discovery Services**, providing IND & NDA-enabling research protocols. DM&PK with an ocular focus is a part of the laboratory's routine research.

PharmOptima lab currently uses Precellys to homogenize a variety of different animal tissues. In this study, Minilys and probe sonicator have been compared to current method (Precellys). Advantages & drawbacks are discussed.

MATERIAL

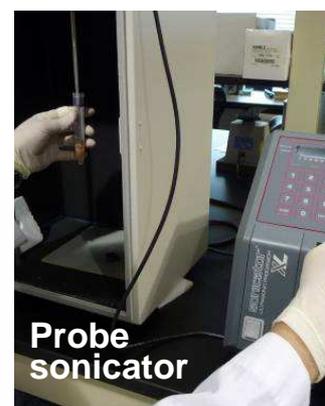
- Minilys vs Precellys Dual homogenizer vs Probe sonicator.
- Precellys kit ceramic beads 7mL vial (réf.0904-01) +2 beads (Réf.03961-1-106).
- Sample: 1 thawed whole brain rat (~1.7 g) into 7mL vial (Minilys & Precellys trials) or into 15mL vial (Probe sonicator trial).
- Buffer: 2 volumes of sodium chloride solution.

PROTOCOL

- Minilys & Precellys: 5000 rpm, 2x45sec (15sec break).
- Probe sonicator: several seconds.
- Analysis: liquid-liquid extraction; LC-MS/MS system.



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RESULTS

The analyte levels by samples are equivalent. No difference involving the three homogenizing techniques are detectable (See Figure 1).

Despite one sample prep in 7mL vial, Minilys is preferred rather the probe sonicator method which is fastidious and time consuming with cleaning steps and potential contamination between samples.

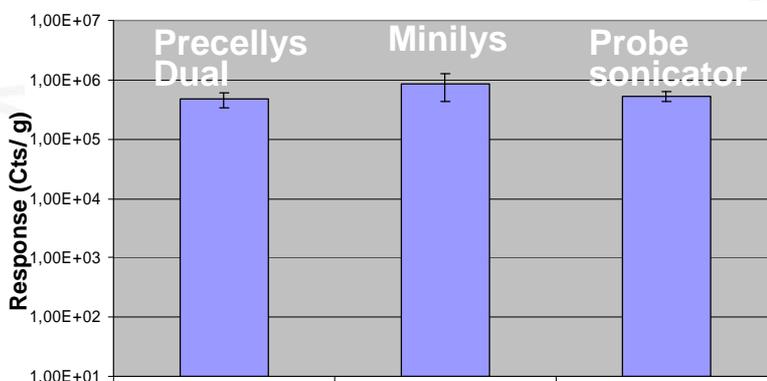


Figure 1: LC-MS/MS analysis from Precellys Dual, Minilys, and Sonicator sample.

CONCLUSION

Precellys Dual and Minilys are suitable and reliable systems to extract Drug from animal tissues for DM&PK testing thanks grinding whole organs as brain rat with a fast process, cross-contamination free, high reproducibility and comparable drug levels extracted.

Minilys homogenizer is a real alternative for standardization of the sample preparation for laboratories with a low or medium throughput of sample.

For more details, please contact precellys@bertin.fr

