

Homogenization of 6 brains of mouse in a 15mL Precellys® tube using the Precellys® Evolution

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CONTEXT

The laboratory of Bertin Pharma works in the field of pharmacy, biotechnologies, cosmetics and nutrition (GLP & GMP). It is specialized in bioanalysis, formulation analysis, pesticide assays, and membrane protein quantification.

In several applications, matrices are crushed before LC/MS/MS or LC-UV analysis. Different kinds of matrices are studied (brain, liver, muscle, spinal cord of rats, plants, pollens, vegetables, bees) and different systems are used for sample preparation (Ultra-Turrax, Precellys®24-Dual and Precellys® Evolution). The goal was to prepare a higher quality homogenate in less time.

MATERIAL

Precellys® Evolution:

- Precellys® lysing kit: CK68_15mL (KT03961-1-514.15)
- Sample: 6 mouse brains.
- Buffer: 6mL of distilled water.

Precellys®24-Dual:

- Precellys® lysing kit: CK28_7mL (KT03961-1-302.7)
- Sample: 4 mouse brains.
- Buffer: 3.6mL of distilled water.

PROTOCOL

- Precellys® Evolution: 6500rpm, 2x30sec, 30sec break.
- Precellys®24-Dual: 5500rpm, 2x60sec, 30sec break.
- Analysis: LC/MS/MS or LC-UV analysis.



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CONCLUSION

Precellys® Evolution is a high-throughput homogenizer that can process up to 36 mouse brain samples in less than two minutes. Moreover, the **Precellys® Evolution** avoids the problem of cross-contamination between samples with the use of single-use tubes (0.5mL; 2mL, 7mL and 15mL).

Precellys® Evolution is a versatile homogenizer essential for a service lab that deals with a large range of samples.

RESULTS

The brain homogenate obtained using Precellys® Evolution was judged equivalent as the one obtained using Precellys®24-Dual (Figure 1).



Figure 1: 6 mouse brains in a 15mL Precellys® tube before (a) and after (b) homogenization using the Precellys® Evolution.

The main goal was to prepare a higher quality homogenate in less time. 36 brains can be treated simultaneously (6 brains/15mL Precellys® tube x 6) using Precellys® Evolution instead of 24 (4 brains/7mL Precellys® tube x 6) with Precellys®24-Dual. No difference was observed between the 2 evaluated programs.



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