MP Biomedicals

Case study - *Bones*

Health

Mouse bone samples grinding with FastPrep-24™ homogenizer and Lysing Matrix tubes.

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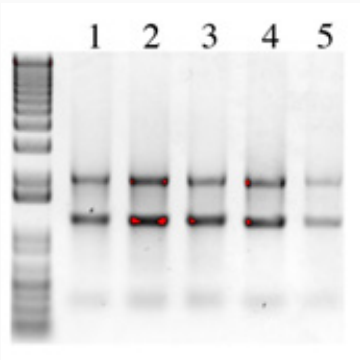
Overview

- **Keywords:** Mouse bone samples, RNA extraction, FastPrep-24™ homogenizer, gene expression
- **Aim of the study:** High quality RNA extraction from mouse bone samples
- **Application:** qPCR
- **Sample Name:** Mouse Calvaria, long bones, chondrocytes, Osteoblasts (OB).
- **Material:** FastPrep-24™ homogenizer, Lysing Matrix S (metal beads), Lysing Matrix D (ceramic beads)
- **Buffer:** RNA extraction buffer

Protocol and Parameters

1. Put bone samples immediately in liquid nitrogen after sampling
2. Place bone sample in Lysing Matrix tube containing 6 metal beads (Lysing Matrix S)
3. Add 350 µl of RNA extraction buffer per sample
4. Load tube in the FastPrep-24™ homogenizer and process 2 x 15 sec at speed setting of 6m/s with 5 min intermediate incubation on ice
5. Centrifuge Lysing Matrix tube at 12 000 x g, 5 min at 4 °C
6. Transfer supernatant to a new 2 ml microcentrifuge tube and follow RNA extraction according to RNA extraction protocol

Results



1-4: *250-300 ng RNA from mineralized OB (Lysing Matrix D)*

5: *200 ng RNA from mineralized chondrocytes (Lysing Matrix S)*

Conclusion

- Bone sample grinding is challenging. This study shows that the use of FastPrep-24™ homogenizer in combination with metal beads is **highly performant** for this application.
- High RNA quality and yield are extracted from mineralized Osteoblasts and Chondrocytes using FastPrep-24™, Lysing Matrix D & Lysing Matrix S tubes.
- FastPrep® technology is the **most adapted** for bone & Forensics studies.

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**.

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