

DNA extraction from liver tissue with Minilys

CONTEXT

Minilys is a small and compact homogenizer for fast and hand-free disruption of a wide range of biological samples prior extraction of DNA, RNA, proteins or drugs. Based on 3D motion bead-beating, Minilys homogenizes, grinds, dissociates samples into 0.5mL, 2mL or 7mL tubes. The mechanical sample prep is compatible with any analysis DNA-RNA electrophoresis, Real time PCR, Western-blot, GC/MS, LC/MS.

In this application, the homogenization of liver tissue to extract DNA is illustrated.

MATERIAL

- Minilys homogenizer
- Precellys kit: 03961-1-010 (1.4 & 2.8 ceramic beads mix).
- peqGOLD Tissue DNA mini Kit
- Samples: 30 mg of liver tissue
- Buffer: 100 µl TE buffer

PROTOCOL

- Minilys: 5000 rpm, 15 sec
- Analysis: total genomic DNA was extracted directly from the homogenized samples using peqGOLD Tissue DNA mini Kit before being checked for quality and quantity using NanoDrop analysis.



Figure 3: homogenized liver samples (vial 1, vial 2, vial 3)

RESULTS

Concentration of DNA obtained from liver tissue after homogenization with Minilys and absorption ratios were determined and shown in the figure 1.

Equivalent total genomic DNA is obtained with Minilys homogenizer. High quality DNA is obtained from all extracted samples.

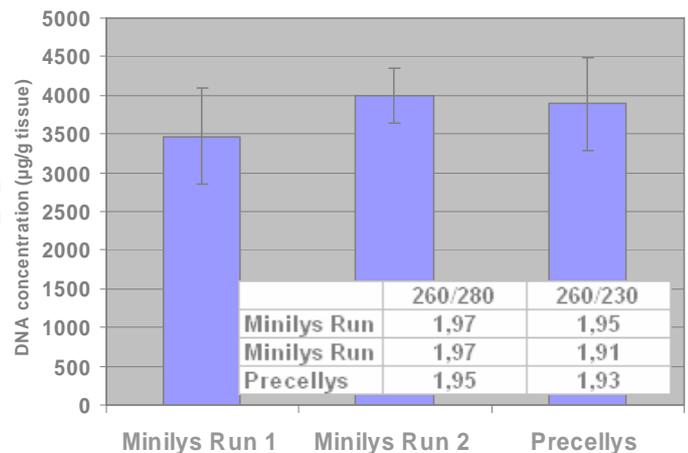


Figure 1: mean concentration of total genomic DNA from 3 extracted samples of liver tissue with Minilys (run 1 and 2) in comparison with Precellys. The corresponding mean absorption ratios (260/280; 260/230) are also plotted.

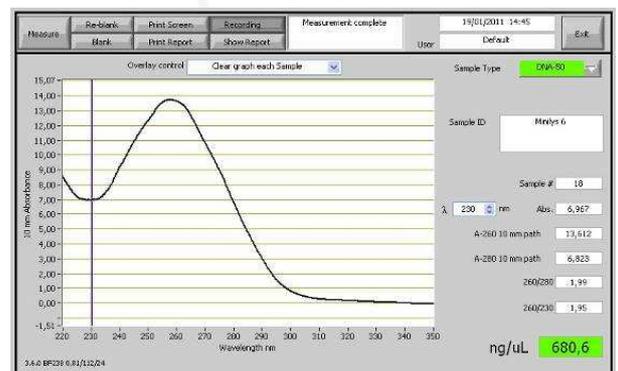


Figure 2: illustration of NanoDrop analysis

CONCLUSION

Equivalent total genomic DNA concentration is obtained with Minilys and Precellys homogenizers.

The Minilys provides the optimal balance of efficiency, speed, ease of use at a low throughput. Minilys enables also cross-contamination free homogenization when compared to grinding with a mortar.

