

Stabilizor 2D-GE Extraction Kit (Tissue)

Stabilize and extract proteins from heat-stabilized tissue

- Produce high quality samples for consistent 2D-GE analysis
- Reduce time to results
 - Follow a ready to use, validated protocol – no need for optimization
 - Use standard laboratory equipment



Introduction

The Stabilizor™ 2D-GE Extraction Kit (Tissue), used together with the Stabilizor system, addresses the challenge of maximizing recovery of proteins from heat-stabilized tissue to obtain a reliable, representative picture of proteins present. After rapid heat stabilization, samples are homogenized in a buffer designed to ensure optimal extraction of proteins prior to standard 2D-GE analysis.

Efficient recovery of proteins from heat-stabilized tissue

Rapid heat stabilization denatures proteins within a tissue sample, permanently stopping all enzymatic activity that could otherwise distort analytical results. The method used to extract protein components from the heat-stabilized tissue before analysis must ensure effective solubilization of protein components and disaggregate any protein-protein complexes that may have formed. Several key parameters were tested during development of the extraction kit protocol. Figure 1 shows results from experiments to determine the optimal buffer:sample ratio. Normal or heat-stabilized tissue (chicken liver) samples were processed identically except for using different buffer:sample

ratios. Data indicate that a ratio of 10:1 buffer:sample, i.e. 10 μ l buffer to each mg tissue, was sufficient to ensure effective extraction and to achieve highest protein concentrations.

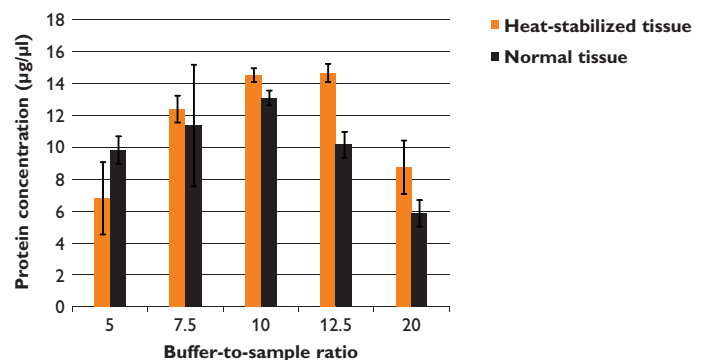


Figure 1. During protocol development 10 μ l buffer:1 mg tissue gave the most effective extraction and highest protein concentration

Acknowledgment

Denator would like to thank the research groups of Prof. Michael Dunn at UCD Conway (Dublin, Ireland), Dr. Birger Scholz at Uppsala University (Uppsala, Sweden), and Prof. Peter James at Lund University (Lund, Sweden) for their assistance and inspiration during the development and optimization of the Stabilizor 2D-GE Extraction Kit (Tissue).

Product specifications

The Stabilizor 2D-GE Extraction Kit (Tissue) includes Maintainor Tissue cards for tissue samples, buffer components, accessories and a protocol for sample collection and protein extraction

prior to 2D-GE analysis. The protocol has been validated for 2D-GE although final samples may be in a condition suitable for other analytical techniques.

Stabilizor 2D-GE Extraction Kit for processing 12 tissue samples:		Additional equipment required
12 x Maintainor Tissue cards		Stabilizor system
1 x Protein Extraction Buffer – Dry Component (26 g)		Microcentrifuge for 1.5ml tubes, capable of spinning at 12 000 x g or more
1 x Protein Extraction Buffer – Diluent (25 ml)		Vortex mixer
3 x Protein Extraction Buffer – DTT Components (23 mg)		1.5 ml centrifugation tubes – non-coated, low binding (e.g. LoBind, Eppendorf)
36 x pestles for homogenization		Protein quantification kit
36 x tubes for homogenization		Tubes for Protein Extraction Buffer (>15 ml)
Stabilization and extraction protocol		Dry ice
Shelf life: 12 months from production date	Storage: Storage: +4° to 8°C	

Ordering information

Stabilizor 2D-GE Extraction Kit (Tissue)

Order code: DKT 0002

Stabilizor system

Order code: DST 0001

Please contact your local Denator representative for further information.