

## Protein extraction from *Arabidopsis* with Minilys Institute of Plant Molecular Biology, CNRS, Univ. of Strasbourg, France

### CONTEXT

This institute is presently the largest CNRS centre devoted to integrative plant biology. IBMP focus on the molecular and cellular mechanisms of plant growth, differentiation, development and defense reactions against pathogens and environmental stresses. The research programs use functional genomics, genetics, molecular and cell biology and molecular enzymology.

### MATERIAL

- Minilys homogenizer.
- Precellys kit: 03961-1-010 (1.4&2.8 ceramic beads mix).
- Samples: 5 *Arabidopsis* seedlings (two weeks old).
- Buffer: 200 µL of 62.5mM Tris-HCl pH8, 4M Urea, 3% SDS, 10% Glycerol, 0.1% Bromophenolblue, 100mM DTT.

### PROTOCOL

- Snap-frozen in N2.
- Addition of extraction buffer after (Preparation A) or before homogenization (Preparation B).
- Minilys: 5000 rpm, 20 sec vs 5000 rpm, 40s.
- Triplicate by condition.
- Analysis: Western blot.

### RESULTS

The total yield of proteins extracted is increasing with buffer extraction and an higher duration of homogenization (Figure 1).

Total proteins were separated on a 8% SDS-Acrylamide gel and transfer to a PVDF-membrane.

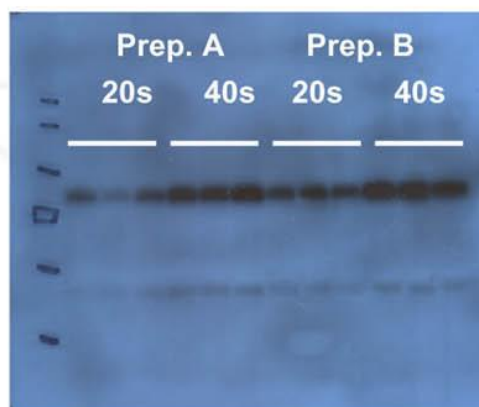


Figure 1: Western blot of *Arabidopsis* total proteins and detection of HD-Zip transcription factor by anti GFP-HRP antibody.

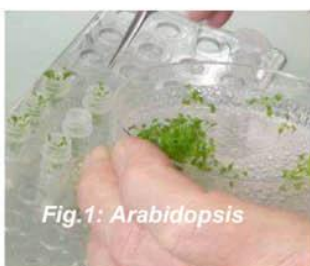


Fig.1: *Arabidopsis*



Fig.2: Addition buffer



Fig.3: Before homogenization

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### CONCLUSION

Buffer extraction with an increasing time homogenization allow higher proteins yield and in the same range as with Precellys 24 tissue homogenizer.

Minilys provides the optimal balance of efficiency, speed, ease of use with a low throughput. Minilys enables cross-contamination free homogenization as opposed grinding with a mortar.

For more details, please contact [precellys@bertin.fr](mailto:precellys@bertin.fr)



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