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ProductInformation

CelLytic™ P
Plant Cell Lysis/Extraction Reagent

Product Number **C 2360**

TECHNICAL BULLETIN

Product Description

The CelLytic™ P reagent offers a convenient method for efficient plant cell lysis and protein solubilization, while avoiding protein degradation and interference with protein immunoreactivity and biological activity. CelLytic P reagent is a detergent-based reagent that may be used for the extraction of proteins from less then one gram of fresh or frozen leaves up to hundreds of grams, employing a short procedure (20 to 30 minutes). The CelLytic P reagent has been tested for use with tobacco, tomato, spinach and arabidopsis.

The resulting lysate is suitable for:

- Western blot analysis
- Protein staining such as Coomassie and silver staining
- Enzymatic assays: e.g. Kinase assays (tested for tyrosine and serine kinase activity) and phosphatase assays (tested for general and alkaline phosphatase)
- DNA-protein interaction assays (Gel-Shift)

Reagent

CelLytic P reagent is supplied ready-to-use.
Each ml of reagent is sufficient for extraction of 0.5 to 1 gram of plant leaves.

Reagents and Equipment Required For Extraction but Not Provided

(Sigma product numbers are given where available)

- Protease Inhibitor Cocktail for Plants (P 9599)
- Test tubes
- Centrifuge or Microcentrifuge (Eppendorf 5417R or equivalent)
- Liquid nitrogen
- Mortar and pestle or homogenizer

Precautions and Disclaimer

Sigma's CelLytic P reagent is for laboratory use only. Not for drug, household or other uses.

Storage/Stability

Store at room temperature.

Procedure

To avoid protein degradation it is highly recommended to add Protease Inhibitor Cocktail to the CelLytic P reagent (diluted 1:100).

1. Grind fresh or frozen leaves to a fine powder with liquid nitrogen, using mortar and pestle:
   Add 2 ml of CelLytic P reagent to each gram of leaves and grind thoroughly with the pestle.
   Alternatively: Grind the leaves in blender or homogenizer together with the CelLytic P reagent.
   Note: For a higher concentration of extracted proteins, reduce the volume of CelLytic P reagent per gram of leaves.

2. Transfer the suspension to a tube(s).

3. Centrifuge for 10 minutes at 12,000 x *g* to pellet the cellular debris.

4. Transfer the supernatant to a new tube.
   At this step, the extract is suitable for immediate use. Alternatively, the extract may be stored at –70 °C. To improve protein stability, glycerol may be added a final concentration of 10 to 25 % prior to freezing as long as this will not interfere with your application.

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