Plant Protein Extraction Kit

Cat. No. PPE-014K **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Plant Protein Extraction Kit provides an effective way of extracting soluble protein and other biomolecules and metabolites from all kinds of dry and fresh plant tissues without the use of liquid nitrogen. The kit includes optimized Extraction Buffer to extract plant protein and metabolites, Protease Inhibitor Cocktail to prevent protein degradation and Homogenization Pestles and Tubes to homogenize the plant tissue. The extracted protein can be used in a variety of downstream applications such as Western Blotting, 2-D gel electrophoresis, immunoprecipitation assay, and enzymatic activity assays etc. and extracted small molecules can be used in plant metabolic studies. This easy-to-use and rapid procedure ensures consistent protein yield ~ 2-9 mg/ml depending on the sample type.
Applications	Extraction of plant soluble protein and metabolites for various downstream applications such as Western Blotting, 2-D gel electrophoresis, immunoprecipitation assay, enzymatic activity assay and quantitation of metabolites etc.
Storage	Store kit at -20centigrade, protect from light. Homogenization Pestles and tubes can be stored at room temperature or -20centigrade. Thaw reagents before use. Briefly centrifuge small vials prior to opening. Read entire protocol before performing the assay.
Kit Components	• Plant Extraction Buffer 25 ml • Protease Inhibitor Cocktail (200X) 1 ml • Homogenization Pestles 3 • Homogenization Tubes (1.5 ml) 3

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Materials Required but Not Supplied	Blades and tweezers Micro centrifuge Multi-well spectrophotometer (ELISA reader) BCA Protein Assay Kit
Features & Benefits	• Simple method for extracting soluble protein, biomolecules & metabolites from plant tissues without the use of liquid nitrogen • Easy-to-use and rapid procedure ensures consistent protein yield ~ 2-9 mg/ml depending on the sample type
Separation Protocol	1. Extraction: Add 5 µlof Protease Inhibitor Cocktail to 995 µlof Plant Extraction Buffer before use and keep on ice to chill. Clean the tissue with ddH2O and remove excess water. Weigh the fresh or frozen tissue (~50-100 mg) and cut into small pieces with blade. Transfer the tissue pieces into provided 1.5 ml Homogenization Tube and add ~200-400 µice cold Plant Extraction Buffer with Protease Inhibitor Cocktail. Homogenize the tissue on ice by rotating the pestle in the provided 1.5 ml Tube for 60 times. Keep the Tube on ice for 10 min. Centrifuge at 10,000 x g, 4centigrade for 5 min. and collect the supernatant. Notes: a. Thaw the frozen plant tissue on ice before cutting into small pieces. b. To soften the dry plant tissue such as seeds, roots etc. completely soak the tissue in dH2O and incubate at 4centigrade for 1-2 days. c. Homogenization Pestles and Tubes are reusable. After each use, rinse 3 times with ddH2O and air-dry. 2. Protein Quantitation: Measure the protein concentration using BCA Protein Assay Kit. Keep the plant tissue homogenate on ice for immediate use, or store at -80centigrade for future use.

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Sample Type	Fresh or frozen plant tissues, dry plant tissues such as seeds

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