

**Protease Inhibitor Cocktail, PLANT [100X]**

**Cat. Nos.: 18-430, 18-431 & 18-432**

**Introduction:**

The plant tissue/cell extracts contain a number of endogenous proteases, which are capable of modifying the proteins present in the extract. The need of protease inhibitors arises to protect the proteins from damage caused by the proteases present in the sample. To improve the yield of native proteins, use of protease inhibitor cocktail along with phosphatase and other inhibitors is recommended during the protein extraction process. Our Protease Inhibitor Cocktail, PLANT [100X] contains optimized concentration of protease inhibitors: AEBSF (4-[2-Aminoethyl] benzenesulfonyl fluoride hydrochloride), Leupeptin, Bestatin, Pepstatin A, E-64 (N-[trans-Epoxy succinyl]-L-leucine 4-guanidinobutylamide) and 1,10-Phenanthroline protease inhibitors and other proprietary component(s). This inhibitor cocktail has been designed for broad spectrum inhibition of proteases that target serine proteases (e.g., trypsin and chymotrypsin), cysteine proteases (e.g., calpain, trypsin, papain, and cathepsin B), aminopeptidases (e.g., leucine aminopeptidase and alanyl aminopeptidase), acid proteases (e.g., pepsin, renin, cathepsin D, chymosin, and protease B from *Aspergillus niger*), and metalloproteases etc.

The Protease Inhibitor Cocktail, PLANT is supplied as a ready to use solution at 100X concentration, which makes it easier to use in low volume at 1X, 2X or more for samples with high protease activities. This inhibitor cocktail helps in preserving the proteins from degradation by proteases and can be used in plant tissue/cell extracts from different species. It is supplied as a ready to use solution at 100X concentration, which makes it easier to use in low volume at 1X, 2X or more for samples with high protease activities and is better or equivalent in performance when compared with Roche tablet and Sigma's protease inhibitor cocktails. Our inhibitor cocktail helps in preserving the proteins from degradation by proteases and used during the extraction of proteins from different tissues and cells.

**Items Supplied:**

Catalog No.	Product Name	Size	Storage Condition*
18-430	Protease Inhibitor Cocktail, PLANT [100X]	1.0 ml	4°C to -20°C
18-431	Protease Inhibitor Cocktail, PLANT [100X]	2.0 ml	4°C to -20°C
18-432	Protease Inhibitor Cocktail, PLANT [100X]	5.0 ml	4°C to -20°C

*\*The product is shipped at ambient temperature and upon receipt, store it at 4°C for short-term storage (up to 4 months) and at -20°C for long term storage (up to 1 year). The product is stable for up to one year, if stored and used as recommended.*

**Product Handling / Safety Warning:**

This product is for research use only and must not be used for therapeutic or clinical diagnostics purposes in human or animal. Wear gloves and other protective measures when handling it and avoid contact to eyes, skin and other exposed parts of the body, read safety data sheet for further details.

#### **Important NOTE About the Product:**

- The Protease Inhibitor Cocktail DOES NOT contain Phosphatase inhibitors, but only broad-spectrum protease inhibitors.
- The protease inhibitor cocktail is supplied as a 100X stock, which is normally effective when used at 1X concentration. For Example: 1 ml of the protease inhibitor cocktail is good for the inhibition of protease activity found in 100 ml of cell lysate from 30 g of wet plant tissues.
- The extracts from different plants such as pea (*Pisum sativum*), bean (*Phaseolus vulgaris*), wheat (*Triticum aestivum*), tobacco (*Nicotiana tabacum*), and arabidopsis (*Arabidopsis thaliana*) have been tested with our plant protease inhibitor cocktail and showed maximum inhibition of protease activity in these samples.
- However, not all plant lysates would contain the same levels of protease activity, and it may be necessary to adjust the volume of protease inhibitor cocktail as per the sample.

#### **Instructions to Use the Product:**

- I. Take out the Protease Inhibitor Cocktail vial from refrigerator/freezer and let it equilibrate/thaw to room temp. Vortex briefly to mix the solution, if crystals develop due to storage in cold condition, vortex it briefly for additional 2-3 times.
- II. The cocktail is supplied at 100X concentration and recommended to use at 1X as a good starting point. Some protein samples may contain high levels of proteases, and optimization of the working concentration of the plant protease inhibitor cocktail to 2-3X or higher may be required.
- III. Add 10  $\mu$ l of Protease Inhibitor Cocktail [100X] directly into 1 ml of lysis buffer or lysate to achieve 1X concentration of the cocktail and use higher concentration [2-3X], if required.

#### **RELATED PRODUCTS:**

1. **Protein Extraction Buffers/ Kits (Cat. No. 18-400, 18-402, 18-404, 18-406, 18-409, 18-411)**  
For extracting proteins from Bacteria, Insects Cells, Mammalian cells, Tissues and Yeast samples
2. **RIPA Lysis Buffer (18-415, 18-416 and 18-417)**  
For extracting proteins from different species samples.
3. **Protein Loading Buffer [2X] (Cat. No. 20-309)**  
Non-reducing ready to use buffer for loading protein samples on to the gel. Premixed, just add an equal volume to your protein sample
4. **Protein Loading Buffer [2X] (Cat. No. 20-310)**  
Reducing ready to use buffer for loading protein samples on to the gel. Premixed, just add an equal volume to your protein sample

For Other Related Products, please visit our website or contact us