

Protease Inhibitor Cocktail, General – EDTA Free [100X]

**Cat. No.: SMP18-422, 18-420, 18-421,
18-422 & 18-423**

Introduction:

The tissue and 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. Moreover, to improve the yield of native proteins, use of protease inhibitor cocktail as well as phosphatase and other inhibitors is recommended during the extraction process. Our Protease Inhibitor Cocktail-General provides complete protection of proteins from degradation by endogenous proteases that may be released during extraction and purification of proteins from animal and plant tissues, cultured cells, yeast or bacteria.

Our Protease Inhibitor Cocktail, General-EDTA Free [100X] contains optimized concentration of protease inhibitors such as AEBSF, Aprotinin, E-64 [N-(trans-Epoxy succinyl)-L-leucine 4-guanidinobutylamide], Bestatin, Leupeptin and other proprietary component(s) for broad spectrum inhibition of proteases that target serine proteases (e.g., trypsin, chymotrypsin, plasmin, kallikrein and thrombin), cysteine proteases (e.g., calpain, papain, cathepsin B, and cathepsin L), and aminopeptidases (e.g., leucine aminopeptidase and alanyl aminopeptidase), etc. 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*
18-420	Protease Inhibitor Cocktail, General – EDAT Free [100X]	1.0 ml	4°C to -20°C
18-421	Protease Inhibitor Cocktail, General – EDAT Free [100X]	2.0 ml	4°C to -20°C
18-422	Protease Inhibitor Cocktail, General – EDAT Free [100X]	5.0 ml	4°C to -20°C
18-423	Protease Inhibitor Cocktail, General – EDAT Free [100X]	10.0 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 6 months) and at -20°C for long term storage (up to 18 Months). When diluted to 1X in buffer, the protease inhibitors remain stable and active for 1-2 weeks at 4°C and up to 10-12 weeks at -20°C.*

Product Handling / Safety Warning:

This product is for research use only and must not be used for therapeutic or diagnostic purpose in human or animals. 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:

- This Protease Inhibitor Cocktail DOES NOT contain Phosphatase inhibitors, but only broad-spectrum protease inhibitors.

- The Protease Inhibitor Cocktail is EDTA Free. EDTA inhibits metalloproteases by chelating the divalent cations necessary for their activity. By this same mechanism, the activities of other proteins of interest may be affected when EDTA is used. Therefore, empirical testing may be required to determine if use of EDTA is beneficial in particular experiments.
- EDTA must be removed from the buffered protein solution by de-salting or dialysis, if the protein of interest is to be purified using immobilized metal chelate affinity chromatography or analysis by 2-D gel electrophoresis.
- The protease inhibitor cocktail is supplied as a 100X stock, which is normally effective when used at 1X concentration. Not all lysates 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 cocktail solution, if crystals develop due to storage in cold condition, vortex it for briefly for additional 2-3 times.
- II. The cocktail is supplied at 100X concentration and recommended to use at 1-2X concentration. Some protein samples may contain high levels of proteases, and optimization of the working concentration of the inhibitor cocktail to 2-3X or higher may be required.
- III. Use 10 μ l of supplied Protease Inhibitor Cocktail [100X] in 1 ml of lysis buffer or lysate to achieve 1X concentration of the cocktail and use higher concentration [2-3X], if needed.
- IV. If the protein extraction buffer doesn't contain EDTA in it, 10 μ l of 0.5M EDTA (not supplied) per ml sample can be added for the inhibition of metalloproteases at 1X concentration along with Protease Inhibitor Cocktail. Higher concentration of EDTA 20 μ l to 30 μ l of 0.5M EDTA per ml sample can be added, if needed.

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

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