

## Protease Inhibitor Cocktail (EDTA-Free, mini-Tablet)

Revision Date: Jan-01-2016

### 1. Description

Endogenous proteins are produced and removed in a balanced state, so their cellular levels are generally stable under stable environmental conditions. However, protein production is greatly halted and degradation is enhanced when cells are studied *in vitro*. To prevent the degradation of proteins under such conditions, one can utilize a cocktail of small molecule inhibitors to block the action of proteases. The cocktail functions to inhibit proteases that would degrade either phosphorylated or non-phosphorylated protein substrates.

Medchemexpress Protease Inhibitor Cocktail (EDTA free, mini-Tablet) is a blend of 5 pan-protease inhibitors for protection of protein integrity. Each component has specific inhibitory properties. AEBSF and Aprotinin act to inhibit serine proteases, including trypsin, chymotrypsin, and plasmin amongst others. Bestatin inhibits aminopeptidases. E-64 acts against cysteine proteases. Leupeptin acts against both serine and cysteine proteases.

### 2. Components Protocol

- 1 This product can be applied in Western Blot analysis, Co-IP, pull-down, IF, IHC, kinase assay and etc.
- 2 One mini-Tablet can be added to 10 mL extraction medium directly. Alternatively, a stock solution (10× conc. one mini-Tablet in 1 mL ddH<sub>2</sub>O) can be prepared. Vortex briefly to accelerate the dissolution. The stock solution is stable for one week when stored at 4°C, and for at least 4 weeks at -20°C.

### 3. Components

| Ingredient | Target                        | Inhibitor Type |
|------------|-------------------------------|----------------|
| AEBSF      | Serine proteases              | Irreversible   |
| Aprotinin  | Serine proteases              | Reversible     |
| Bestatin   | Aminopeptidases               | Reversible     |
| E-64       | Cysteine proteases            | Irreversible   |
| Leupeptin  | Serine and cysteine proteases | Reversible     |

### 4. Storage/Stability

Protease Inhibitor Cocktail (EDTA free, mini-Tablet) can be stored at 4°C for 2 years.

### 5. Notice

- 1 For faster dissolution, vortex briefly after adding the mini-Tablet into the extraction media or ddH<sub>2</sub>O.
- 2 Some DUB proteases (one example is ATAXIN-3) cannot be suppressed by traditional protease inhibitors, such as E-64, AEBSF, bestatin, leupeptin and Aprotinin. (Reference: Neil D. Rawlings, Guy Salvesen *et al.* Handbook of Proteolytic Enzymes, Vol.1, 2012).

### 6. Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.