Protease Inhibitor Cocktail (EDTA-Free, 100× in DMSO)

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, 100× in DMSO) is a blend of 6 pan-protease inhibitors for protection of protein integrity. This mixture contains individual components, including AEBSF at 104 mM, Aprotinin at 80 μM, Bestatin at 4 mM, E-64 at 1.4 mM, Leupeptin at 2 mM and Pepstatin A at 1.5 mM. Each component has specific inhibitory properties. AEBSF and Aprotinin act to inhibit serine proteases, including trypsin, chymotrypsin, and plasmin amongst others. Bestatin inhibits aminpeptidases. E-64 acts against cystein proteases. Leupeptin acts against both serine and cystein proteases. Pepstatin A inhibits acid proteases.

2. Protocol

1 This product can be applied in Western Blot analysis, Co-IP, pull-down, IF, IHC, kinase assay and etc.
2 Thaw at room temperature, add at 1:100 (v/v) dilution to 1 solution samples (such as cell lysates or tissue extracts), before assaying. One tube is recommended for inhibition of proteases present in cell.
3 Extracts of up to 20 g wet weight.

3. Components

Ingredient	Target	100× Conc.	Inhibitor Type
AEBSF	Serine proteases	104 mM	Irreversible
Aprotinin	Serine proteases	80 μM	Reversible
Bestatin	Aminopeptidases	5 mM	Reversible
E-64	Cysteine proteases	1.5 mM	Irreversible
Leupeptin	Serine and cysteine proteases	2 mM	Reversible
Pepstatin A	Aspartic proteases	1.5 mM	Reversible

4. Storage/Stability

Protease Inhibitor Cocktail (EDTA free, 100×) can be stored at -20°C for 12 months.

5. Notice

1 DMSO solution thaws slowly in low temperature. Recommend to warm up at 25°C.
2 Not all lysates contain the same levels of endogenous enzymes, and it may be necessary to adjust the volume of cocktail required.

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.