IMMUNOLOGICAL SCIENCES Product Data Sheet

IS-2812 Protease Inhibitor Cocktail "Broad Spectrum" (with EDTA) 100X

Pack Size 1mL X 2

Protease Inhibitor Cocktail "Broad Spectrum" (100X) is a Western blot related ready-to-use concentrated stock solution reagent containing a blend of seven protease inhibitors that is to be added to cell lysis buffer to protect the integrity and functionality of native cellular proteins against degradation by multiple classes of endogenous proteases during protein extraction and sample preparation procedures. The product is supplied as a **100X concentrated** stock solution in a liquid format for improved accuracy, solubility, and ease of use in comparison to traditional tablets.

Description	Quantity	Volume	Contents
Broad Spectrum Protease Inhibitor Cocktail	1	1mL(100X)	Containing AEBSF, aprotinin, bestatin, E-64, leupeptin and pepstatin A stabilized in dimethylsulfoxide (DMSO)
0.1M EDTA solution	1	1mL(100X)	EDTA solution for optional metalloprotease inhibition

Safety Precautions	Harmful. DMSO is toxic and causes irritation to the eyes and skin. Please operate with caution and wear eye and hand protection and proper lab garments.
Recommended working concentration	100-fold dilution in lysis buffer 10 µL of the Protease Inhibitor Cocktail solution is enough to inhibit degradation of proteins in 1 mL lysate.
Storage	Upon receipt store at -20°C. It is stable for one year. Product is shipped on ice.

Biochemical Information

Protease Inhibitor Component	MW	Protease Family Targeted	Inhibition Type	Typical Working (1X) Conc.
E-64	357.4	Cysteine proteases (papain, calpain, lysosomal cathepsins)	Irreversible	15µM
AEBSF	239.5	Serine proteases (trypsin, chymotrypsin, plasmin, trypsinogen, urokinase, kallikrein)	Irreversible	1mM
Bestatin	308.4	Amino-peptidases	Reversible	50µM
Leupeptin	475.6	Serine and cysteine proteases	Reversible	20µM
Aprotinin	6511.5	Serine proteases (trypsin, chymotrypsin, plasmin, trypsinogen, urokinase, kallikrein)	Reversible	800nM
Pepstatin A	685.9	Aspartic acid proteases (pepsin and rennin)	Reversible	10µM
EDTA	372.2	Metalloproteases (thermolysin and carboxypeptidase A)	Reversible	1mM

Usage and Handling

• Equilibrate the bottle to room temperature before use.

• Vortex the bottle before use to ensure a homogeneous suspension

• This protease inhibitor cocktail is supplied at a 100X concentration in DMSO and is generally effective when used at a 1X final concentration; however, if a sample contains particularly high levels of proteases, the effective cocktail concentration might require optimization.

1. Add broad spectrum protease inhibitor cocktail in lysis buffer at a ratio of 1:100 and mix well.

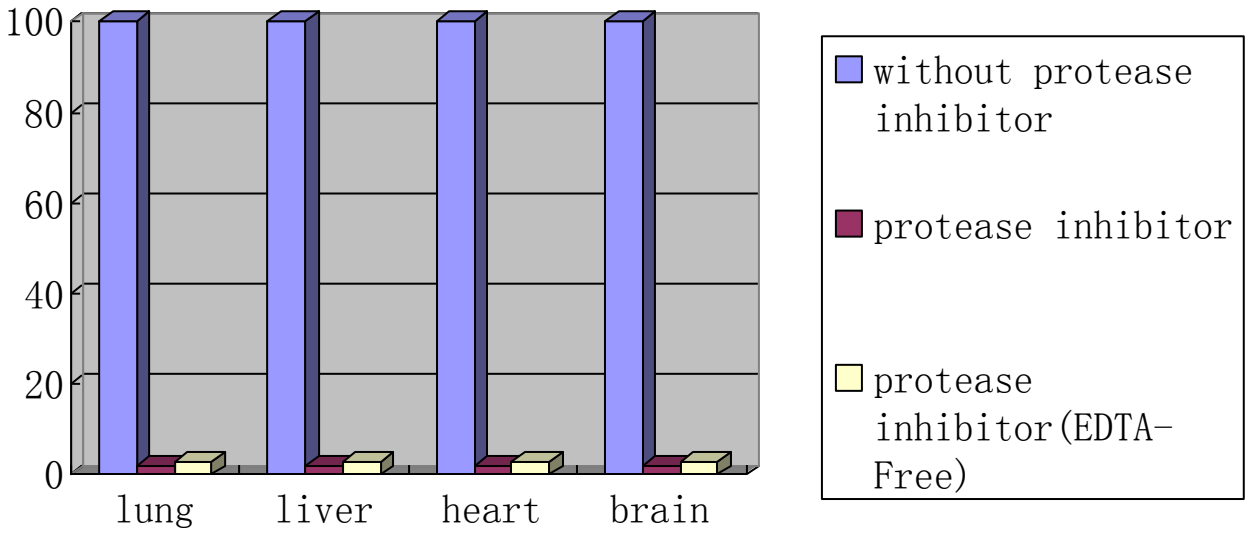
2. Optional: For inhibition of metalloproteases, add 0.1M EDTA solution in lysis buffer at a ratio of 1:100 and mix well.

3. Add the solution in to cell or tissue samples for protein extraction.
Lysis buffer containing protease inhibitor cocktail should be freshly prepared before use.

Properties

Compatibility with reagents	Fully compatible with cell lysis buffers and Broad Spectrum Phosphatase Inhibitor Cocktail
Compatibility with assays	Not MS-compatible: contain AEBSF; Not compatible with immobilized metal chelate affinity chromatography and 2D gel electrophoresis: contain EDTA
Reagent Type	Western Blotting related reagent; Inhibitors
Usage	Protect native cellular proteins from destructive degradation by endogenous proteases following cell lysis Preserve native cellular proteins intact and functional Screen extracts for proteolytic activity Study proteolysis in the regulation of cellular processes
Target Specificity	Serine proteases, cysteine proteases, aspartic acid proteases, metalloproteases, aminopeptidases
Target Sample	Cell lysis extracts

Result image



Protease activity for extracted protein from mouse tissue while using different protease inhibitor cocktails