

Protease Inhibitor Cocktails

Code	Description	Size
M221-1ML	Protease Inhibitor Cocktail, General Use	1 mL
M222-1ML	Protease Inhibitor Cocktail, General Use with EDTA	1mL
M250-1ML	Protease Inhibitor Cocktail, Mammalian	1 mL
M306-5ML	Protease Inhibitor Cocktail, Bacterial	5 mL
M307-1ML	Protease Inhibitor Cocktail, Plant	1 mL

General Information

VWR Life Science AMRESCO offers five different protease inhibitor cocktails as lyophilized powders. These are designed to preserve protein composition of samples derived from a broad range of organisms. Protease inhibitors are essential reagents during protein extraction and purification, as there are endogenous proteases and phosphatases in crude lysates, which can compromise protein integrity and yield. VWR Life Science AMRESCO Protease Inhibitor Cocktails contain mixtures of serine, cysteine, aspartic, metalloprotease and aminopeptidase inhibitors in concentrations that are optimized for different protein sources.

- Lyophilized, premix of protease inhibitors
- Reconstitute in supplied vial for convenient, 100X cocktail
- Optimized formulations for use with different organisms

Storage/Stability

Lyophilized and Reconstituted Protease Inhibitor Cocktails should be stored frozen (0 to -20°C). Stability of the lyophilized powders is 1 year and for reconstituted cocktails, the stability is 2 weeks. Avoid multiple freeze-thaw cycles.

Product Use Limitations

For research use only. Not for therapeutic or diagnostic use.

Protocol/Procedure

Formulation and preparation of stock solutions of Protease Inhibitor Cocktails

M221-1ML Protease Inhibitor Cocktail, General Use

Inhibitor	Molecular Weight	Concentration		How to Reconstitute
		100X	1X	
AEBSF	239.5	50 mM	0.5 mM	Add 1 mL deionized, distilled water and mix gently until powder is completely resuspended. Aliquot into multiple tubes and store at -20°C.
Aprotonin	6,512	30 µM	0.3 µM	
Bestatin	308.4	1 mM	10 µM	
E-64	357.4	1 mM	10 µM	
Leupeptin	493.6	1 mM	10 µM	

M222-1ML Protease Inhibitor Cocktail, General Use with EDTA

Inhibitor	Molecular Weight	Concentration		How to Reconstitute
		100X	1X	
AEBSF	239.5	50 mM	0.5 mM	Add 1 mL deionized, distilled water and mix gently until powder is completely resuspended. Aliquot into multiple tubes and store at -20°C.
Aprotonin	6,512	30 µM	0.3 µM	
Bestatin	308.4	1 mM	10 µM	
E-64	357.4	1 mM	10 µM	
Leupeptin	493.6	1 mM	10 µM	
EDTA	372.2	5 mM	50 µM	

M250-1ML Protease Inhibitor Cocktail, Mammalian

Inhibitor	Molecular Weight	Concentration		How to Reconstitute
		100X	1X	
AEBSF	239.5	120 mM	1.2 mM	Add 1 mL deionized, distilled water and mix gently until powder is completely resuspended. Aliquot into multiple tubes and store at -20°C.
Aprotonin	6,512	46 µM	0.46 µM	
Bestatin	308.4	1.36 mM	14 µM	
E-64	357.4	1.23 mM	12.3 µM	
Leupeptin	493.6	11.2 mM	112 µM	
Pepstatin	685.9	116 mM	1.16 µM	

M306-5ML Protease Inhibitor Cocktail, Bacterial

Inhibitor	Molecular Weight	Concentration		How to Reconstitute
		100X	1X	
AEBSF	239.5	22 mM	1.1 mM	Add 1 mL DMSO and vortex 1 minute. Add 4 mL deionized, distilled water and mix. Aliquot into multiple tubes and store at -20°C. <i>*Solution may be cloudy and precipitate may be present. 1 mL inhibitor is sufficient to inhibit 20 mL of lysate from 4 g (wet weight) of E. coli cells.</i>
Bestatin	308.4	1.87mM	9.35 µM	
E-64	357.4	220 µM	11 µM	
Pepstatin	685.9	2.2 mM	110 µM	
EDTA	372.2	93 mM	4.65 mM	

M307-1ML Protease Inhibitor Cocktail, Plant

Inhibitor	Molecular Weight	Concentration		How to Reconstitute
		100X	1X	
AEBSF	239.5	220 mM	2.2 mM	Add 1 mL DMSO and mix gently until powder is completely resuspended. Aliquot into multiple tubes and store at -20°C.
Bestatin	308.4	10.7 mM	107 µM	
E-64	357.4	3 mM	30 µM	
Leupeptin	493.6	2 mM	20 µM	
Pepstatin	685.9	2.2 mM	22 µM	
1,10-Phenanthroline	198.2	550 mM	5.5 mM	

Frequently Asked Questions

What are the inhibitor specificities for the components of VWR Life Science AMRESCO Protease Inhibitor Cocktails?

- Please refer to the table below.

Name	Inhibition Specificity
AEBSF	Irreversible serine protease inhibitor of chymotrypsin, trypsin, kallikrein, plasmin and thrombin. Non-toxic alternative for PMSF.
Aprotinin	Competitive, reversible serine protease inhibitor of chymotrypsin, trypsin, kallikrein and plasmin. Does not inhibit Factor Xa or thrombin.
Bestatin	Competitive aminopeptidases inhibitor of aminopeptidase B, leucine aminopeptidase and tripeptide amonopeptidase. Does not inhibit carboxypeptidases.
E-64	Irreversible cysteine protease inhibitor of papain, calpain, cathepsin B, H, L and S. Effective inhibitor of collagenase as well.
EDTA	Reversible metalloprotease inhibitor – Chelates metal ions.
Leupeptin	Reversible cysteine and serine protease inhibitor of trypsin, plasmin, papain, kallikrein, thrombin and cathepsin A and B.
Pepstatin	Aspartic acid protease inhibitor of pepsin, renin and cathepsin D Insoluble in water.
1,10-Phenanthroline Monohydrate	Metalloprotease inhibitor – Chelates iron and other divalent cations.



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ZY0590

Rev. 1 12/2015

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