Protease and Phosphatase Inhibitor Cocktail (EDTA plus, 100X in ddH_2O)

Product Description

This product is a protease and phosphatase inhibitor cocktail (EDTA plus, 100X in ddH_2O) that can be used to protect proteins during the extraction or lysis of primary cells, mammalian cultured cells, animal tissues, plant tissues, yeast, or bacterial cells. Protease inhibitors target aminopeptidase, cysteine, and serine proteases, while phosphatase inhibitors target serine/threonine and protein tyrosine phosphatases.

This product is a ready-to-use mixed stock solution containing a separate 0.5 M EDTA solution package that can be optionally added.

Composition and storage conditions

Tube	Catalog No.	Product Name	Summary	Targets	CAS Number	Smiles
A (100X in ddH2O)	A2570	Leupeptin	Serine and cysteine protease inhibitors	Proteases | Serine Protease	103476-89-7	O=C([C@@H](NC(C)=O)CC(C)C)N[C@@H](CC(C)C)C(N[C@H](C=O)CCCNC(N)=N)=O.OS(O)(=O)=O
	A2574	Aprotinin	Bovine trypsin inhibitors	Proteases | Serine Protease	9087-70-1	CC(O)=O.CC.CC.CCccC.[R]. [P]. [2H]. [L]. [E]. [P]. [P]. [Y]. [3H]. [G]. [KH]. [R]. [R]. [Y].F.[Y]. [*]. [L].F.[V]. [Y]. [G]. [G]. [R]. [KH]. [R]. N.N.F.[KH].S.[*]. [2H]. [R]. [G]. [G]. [*]. [KH]. [*]. [3H].C.[*].F.[P]. [*]. I.I.N.[Q]. [3H]. [M]
	A2576	E-64	Cysteine protease inhibitors	Proteases | Cathepsin	66701-25-5	CC(C)CC(C(=O)NCCCCN=C(N)N)NC(=O)C1C(O1)C(=O)O
	A8621	Bestatin hydrochloride	Aminopeptidase inhibitors	Proteases | Aminopeptidase	65391-42-6	CC(C)CC(C(=O)O)NC(=O)C(C(CC1=CC=CC=C1)N)O.Cl
	A8524	Sodium	PTP	Phosphatase |	13721-39-6	[O-] [V] (=O) ([O-]) [O-]. [Na+].

		Orthovanadate	inhibitors	Tyrosine Phosphatases		[Na+]. [Na+]
	B7846	sodium fluoride	Acid phosphatase inhibitors	Phosphatase | Serine and Threonine Phosphatases	7681-49-4	[F-]. [Na+]
	C4347	β-glycerophosphate	Reversible inhibitors of serine/threonine phosphatase	Phosphatase | Serine and Threonine Phosphatases	13408-09-8	[O-] P(OC(CO)CO)([O-])=O.[Na+]. [Na+]. O.O.O.O.O
		Sodium pyrophosphate	Irreversible inhibitor of serine/threonine phosphatase	Phosphatase | Serine and Threonine Phosphatases	7722-88-5	[O-] P(=O)([O-])OP(=O)([O-])[O-]. [Na+]. [Na+]. [Na+]. [Na+]
B (100X in ddH_2O)		EDTA, disodium salt, dihydrate	Metalloproteinase inhibitors	Proteases| Metalloproteinase	6381-92-6	C(CN(CC(=O)O)CC(=O)O)N(CC(=O)O)CC(=O)O
Store at -20°C for 1 year.						

Protocol

Thaw at room temperature, and then add Protease and Phosphatase Inhibitor Cocktail (EDTA plus, 100X in ddH_2O) to solution samples (e.g., cell lysates or tissue extracts) at 1:100 (v/v) prior to the experiment.

Notes

1. Pepstatin A is not included in the product, if you need to inhibit acid protease, buy Pepstatin A (A2571) and add it to the Cocktail.
2. Products are typically configured as 1X to obtain valid results, while samples containing high levels of protease or phosphatase may require more concentrated processing (e.g., 2-3X, etc.).
3. EDTA inhibits metalloproteinases by chelating divalent cations necessary for metalloproteinase activity.

By the same mechanism, EDTA may affect the activity of other proteins, so it is necessary to determine whether EDTA has an effect on the experiment before adding EDTA.

4. This product interferes with immobilized metal chelating affinity chromatography (IMAC) and 2D gel electrophoresis, so inhibitors can be removed from sample extracts prior to these experiments, such as by dialysis or desalting.
5. After receiving this product, it can be properly stored at -20 °C to avoid repeated freezing and thawing, and it can be taken out and added to the lysate when it is ready for use.
6. This product is intended for scientific research purposes only.

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