

Pierce™ Protease and Phosphatase Inhibitor Mini Tablets

88668 88669

2304.3

Number	Description
88668	Pierce Protease and Phosphatase Inhibitor Mini Tablets , 20 tablets in vials, each tablet is sufficient for 10mL of extract
88669	Pierce Protease and Phosphatase Inhibitor Mini Tablets, EDTA-free , 20 tablets in vials, each tablet is sufficient for 10mL of extract

Storage: Upon receipt store at 4°C. Product shipped with ice packs.

Note: Tablets may discolor if stored for extended periods at room temperature.

Introduction

The Thermo Scientific™ Pierce™ Protease and Phosphatase Inhibitor Tablets protect proteins from degradation by endogenous proteases and phosphatases released during protein extraction and purification. Each tablet contains a mixture of several potent inhibitors (Table 1). The protease inhibitors target aminopeptidases and cysteine and serine proteases. The phosphatase inhibitors target serine, threonine and protein tyrosine phosphatases.

Table 1. Protease and phosphatase inhibitors included in the tablet.

<u>Inhibitor</u>	<u>Target Protease/Phosphatase</u>
Aprotinin	Serine proteases
Bestatin	Aminopeptidase proteases
E-64	Cysteine proteases
Leupeptin	Serine and cysteine proteases
Sodium fluoride	Serine and threonine phosphatases
Sodium orthovanadate	Tyrosine phosphatases
Sodium pyrophosphate	Serine and threonine phosphatases
β-glycerophosphate	Serine and threonine phosphatases
EDTA*	Metalloproteases

*EDTA is present only in Product No. 88668.

Important Product Information

- The inhibitor formulation is typically effective when used at a 1X final concentration; however, samples containing high levels of proteases or phosphatases might require a more concentrated treatment (i.e., 2-3X).
- EDTA inhibits metalloproteases by chelating divalent cations necessary for their activity. By this same mechanism, EDTA can affect the activities of other proteins; empirically determine if EDTA is beneficial.
- The inhibitor formulation is compatible with most protein assays, including the Thermo Scientific™ Coomassie (Bradford)™ Protein Assay Kit (Product No. 23200), Coomassie Plus™ (Bradford) Protein Assay Kit (Product No. 23236), Modified Lowry Protein Assay Kit (Product No. 23240) and Pierce™ 660nm Protein Assay Kit (Product No. 22660 and 22662). For use with the Thermo Scientific™ BCA Protein Assay Kit (Product No. 23225 and 23227), dilute the sample a minimum of four-fold before measuring. The formulation is not compatible with the Thermo Scientific™ Micro BCA™ Protein Assay Kit (Product No. 23235).

- Pepstatin A is not included in the cocktail formulation; if you need to inhibit acid proteases, purchase Pepstatin A and add it to the solution.
- The inhibitor formulation interferes with immobilized metal-chelate affinity chromatography (IMAC) and 2D gel electrophoresis. Dialyze or desalt samples to effectively remove inhibitors from sample extracts before performing these procedures.

Procedure for using the Pierce Protease and Phosphatase Inhibitor Tablet

1. Dispense from vial and place into 10mL of solution.
2. Allow the tablet to disperse in liquid for 30 seconds.
3. Vortex to dissolve; solution will be slightly hazy when tablet is dissolved.

Troubleshooting

Problem	Possible Cause	Solution
Poor inhibition of protease or phosphatase activity	Sample contains high levels of proteases or phosphatases	Dissolve the tablet to 2X or 3X final concentration
Tablet does not provide sufficient protection against a particular protease or phosphatase family	Inhibitor for a specific family was not a cocktail component	Add individual inhibitors to the samples for the specific protease or phosphatase
	A specific inhibitor was not at the needed concentration	Dissolve the tablet at a greater concentration

Related Thermo Scientific Products

88665	Pierce Protease Inhibitor Mini Tablets , 30 tablets in vials
88666	Pierce Protease Inhibitor Mini Tablets, EDTA-free , 30 tablets in vials
88667	Pierce Phosphatase Inhibitor Mini Tablets , 20 tablets in vials
78440	Halt™ Protease and Phosphatase Inhibitor Cocktail , 1mL
78441	Halt Protease and Phosphatase Inhibitor Cocktail, EDTA-free (100X) , 1mL
78248	B-PER™ Bacterial Protein Extraction Reagent , 500mL
78510	T-PER™ Tissue Protein Extraction Reagent , 500mL
78990	Y-PER™ Yeast Protein Extraction Reagent , 500mL
89826	Mem-PER™ Membrane Protein Extraction Reagent Kit
78833	NE-PER™ Nuclear and Cytoplasmic Extraction Kit
78501	M-PER™ Mammalian Protein Extraction Reagent , 250mL
87792	N-PER™ Neuronal Protein Extraction Reagent , 100mL
87793	Syn-PER™ Synaptic Protein Extraction Reagent , 100mL

This product ("Product") is warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Product documentation, specifications and/or accompanying package inserts ("Documentation") and to be free from defects in material and workmanship. Unless otherwise expressly authorized in writing, Products are supplied for research use only. No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the original purchaser of the Product ("Buyer").

No other warranties, express or implied, are granted, including without limitation, implied warranties of merchantability, fitness for any particular purpose, or non infringement. Buyer's exclusive remedy for non-conforming Products during the warranty period is limited to replacement of or refund for the non-conforming Product(s).

There is no obligation to replace Products as the result of (i) accident, disaster or event of force majeure, (ii) misuse, fault or negligence of or by Buyer, (iii) use of the Products in a manner for which they were not designed, or (iv) improper storage and handling of the Products.

Current product instructions are available at www.thermoscientific.com/pierce. For a faxed copy, call 800-874-3723 or contact your local distributor.

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