quartett

Protease Quench

EDTA-free tablet

PROTEASE INHIBITOR COCKTAIL TABLETS

quartett is one of the few real manufacturers of synthetically produced protease inhibitors in bulk quantities. After years of intensive research, quartett has finally achieved a tablet formulation that represents a perfect symbiosis of an easily and quickly dissolving tablet combined with an extraordinarily good inhibitory effect. During development, the focus from the start on was on ease of use in terms of solubility behavior for the user.

Designed to protect isolated proteins by providing an extraordinary inhibition of serine proteases, cysteine proteases and aminopeptidases during extractions from animal and plant tissues or cells, yeast and bacteria. The provided tablets do not contain EDTA, leaving the stability and the function of metal-dependant proteins uneffected. Contain both irreversible and reversible protease inhibitors. Aspartic and metallo proteases are not inhibited with the exception of aminopeptidases. The affinity purification of Poly-His-tagged fusion proteins via IMAC (immobilized metal ion affinity chromatography) is also facilitated (no dialysis necessary).

Introduction to protease inhibitors

During protein expression and isolation, endogenous proteases rapidly begin to degrade protein samples following cell lysis or tissue disaggregation. Proteases can negatively impact your research in many ways, leading to reduction of yields, functionality and inconsistent results. Proteolysis can drastically reduce the quality and quantity of protein samples required for characterization and analysis of proteins. In order to overcome this problem, complex protein solutions are treated with a mixture or cocktail of protease inhibitors, which help preserve the structure and activity of proteins.

Protease inhibitor cocktails and highly specific inhibitors to proteases are important tools for scientists engaged in a variety of proteomic studies including protein expression and characterization, biomarker discovery, mapping of posttranslational modifications, protein expression profiling, and the quantitative measurement of proteins.

The addition of a protease inhibitor cocktail or protease inhibitor ensures the integrity of proteins for downstream analysis and further characterization of samples. By utilizing a specific combination of protease inhibitors, preparative protein samples may be protected from the most common proteases including serine proteases, metalloproteases, cysteine proteases, aminopeptidases, and aspartic proteases.

The table on the back gives an overview for the selection of the appropriate protease inhibitor for your application.

Product code:	**PPI9010**	**20 tablets**
	PPI9010-3	**3 x 20 tablets**

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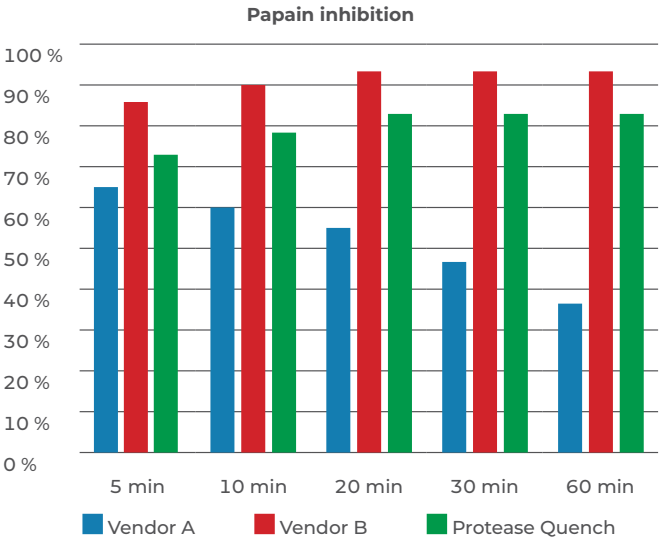
APPLICATION OF COMMON PROTEASE INHIBITORS

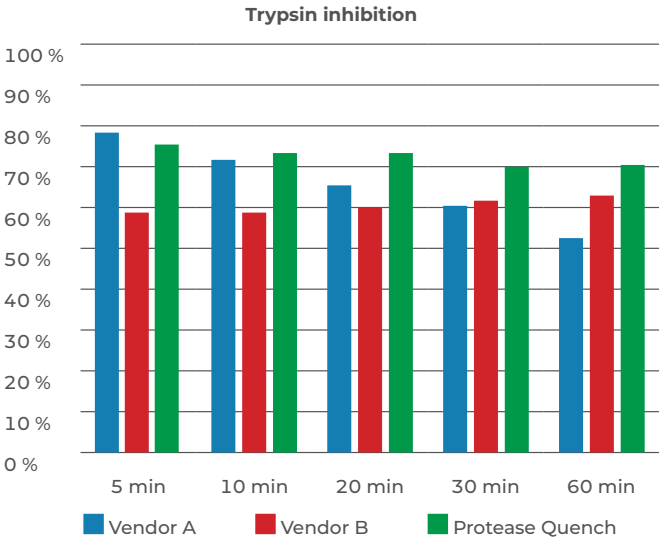
	Serine proteases Active center with serine and histidine	Cysteine proteases Active center with cysteine	Metalloproteases Active center with metal ions	Aminopeptidases	Aspartic proteases Active center with aspartic group
PMSF	✓	✓	✗	✗	✗
Leupeptin	✓	✓	✗	✗	✗
Pefabloc SC	✓	✗	✗	✗	✗
Aprotinin	✓	✗	✗	✗	✗
E-64	✗	✓	✗	✗	✗
EDTA	✗	✗	✓	✗	✗
o-Phenantroline	✗	✗	✓	✗	✗
Phosphoramidon	✗	✗	✓	✗	✗
Bestatin	✗	✗	✗	✓	✗
Pepstatin	✗	✗	✗	✗	✓
Protease Quench	✓	✓	✗	✗	✗

COMPARISON OF COMMERCIALLY AVAILABLE PROTEASE INHIBITOR COCKTAIL TABLETS

The following plots show the inhibitory performance of Protease Quench compared to tablets from two leading suppliers of protease inhibitor cocktail tablets.

Papain represents the class of cysteine proteases, while trypsin represents serine proteases.





Papain or trypsin were incubated with resorufin-labeled casein in the presence or absence of leading protease inhibitor cocktail tablets without EDTA. Reactions were incubated for 5-60 min at 37 °C and reactions were stopped by addition of TCA at the indicated time points.

Fluorescence was measured at 574 nm, and the difference between inhibited and non-inhibited reactions was displayed as percent protease inhibition for each vendor's tablet.

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