

# Phosphatase Inhibitor Cocktail (EDTA free)

Phosphatase Inhibitor Cocktail is a mixture of several inhibitors to protect valuable proteins from dephosphorylation. The product preserves phosphorylated proteins existing in small quantity in cells and tissues. This product does not interfere with metalloproteins since it is EDTA free.

- » Contains 6 kinds of phosphatase inhibitors for different targets.
- » 100 times concentrated stock solution. Dilute with any buffer of your choice.
- » Compatible with protein assay.
- » Ready-to-use reagent.

## Comparison data

The product inhibits Ser/Thr phosphatase, Tyrosine Phosphatase, Acid Phosphatase and Alkaline phosphatase. The product preserves a small quantity of phosphorylated protein.

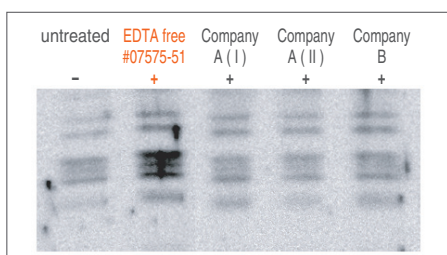


Figure 1. The detection of phosphorylated proteins in HeLa cells with p-Thr antibody

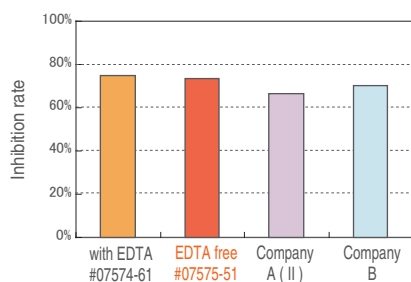


Figure 2. The inhibition effect of phosphatase assayed using fluorescence labeled p-Tyr peptide substrate

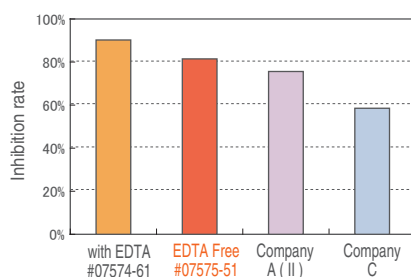


Figure 3. The inhibition effect of phosphatase assayed using p-nitrophenylphosphoric acid.

## Composition

Inhibitors	#07575-51 EDTA free	#07574-61
Sodium orthovanadate (V)	✓	✓
Disodium molybdate (VI) dihydrate	✓	✓
Sodium (+)-tartrate dihydrate	✓	✓
Imidazole	✓	✓
Sodium fluoride	✓	✓
b-Glycerophosphoric acid disodium salt	✓	✓
tetra-Sodium ethylenediaminetetraacetate		✓

\* 100 times concentrated aqueous solution

## Reference

1. Yang, JH. et al. The Journal of Biological Chemistry, Oct 2010.
2. Selamat, W. et al. Neuroscience Letters 450(2), 163-166 (2009)
3. Saito, T. et al. Biochemical and Biophysical Research Communications 357(2), 371-376 (2007)
4. Murakami, Y. et al. J. Biochem., 141, 401-410 (2007)
5. Takenaga, M. et al. J. Cell Sci., 120, 2078-2090 (2007)

## Ordering Information

Product name	Storage	Product number	PKG size
Phosphatase Inhibitr Cocktail (EDTA free) (100x)	2-8°C	07575-51	1 ml
Phosphatase Inhibitr Cocktail (100x)	2-8°C	07574-61	1 ml

# Protease Inhibitor Cocktail (EDTA free)

Inhibition of intra and extra cellular proteases is vital to purify and collect the expressed proteins. Saving trouble of finding adequate inhibitors, a wide range of proteases are inhibited by the Protease Inhibitor Cocktail. This product does not interfere with metalloproteins since it is EDTA free.

- » **Wide range** - contains inhibitors for a variety of serin and cysteine protease
- » **Contain no EDTA** - efficient for purification of metalloproteins and His tag gene exchanged proteins
- » **Easy to use** - dilute according to your need (100x stock concentration)

## Application

Comparison of EDTA containing and EDTA free inhibitor activity for Thermolysin

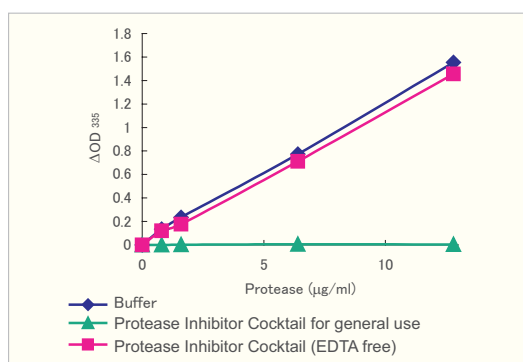


Figure 1. Thermolysin (from *Bacillus thermoproteolyticus*) is a metalloprotease. The compared protease inhibitors do not inhibit Thermolysin activity. The presence EDTA in the common product inhibits Thermolysin, while the EDTA free product does not cause damage.

	Thermolysin (μg/ml)			
	0.8	1.6	6.4	12.8
Protease Inhibitr Cocktail for General Use	100.0	99.6	99.2	99.7
Protease Inhibitr Cocktail (EDTA free)	9.7	8.2	8.0	6.3

Figure 2. The decrease in Thermolysin activity (in %) in the presence of protease inhibitor cocktails.

## Composition

Inhibitors	#04080-11 for General Use	#03969-21 EDTA free	#25955-11 for Mammalian
4-(2-Aminoethyl) benzenesulfonyl fluoride hydrochloride (AEBSF)	✓	✓	✓
Aprotinin	✓	✓	✓
E-64	✓	✓	✓
Leupeptin hemisulfate monohydrate	✓	✓	✓
Disodium dihydrogen ethylenediaminetetraacetate dihydrate	✓		
Bestatin			✓
Pepstatin A			✓

## Reference

- Okada, S. et al. The Journal of Cellular Physiology 226(2), 552-558 (2011)
- Yang, JH. et al. The Journal of Biological Chemistry (2010)
- Iyama, T. et al. Nucl. Acids Res. 38(14), 4834-4843 (2010)
- Kimura, Y. et al. Cancer Research 70(2), 501-511 (2010)
- Burnett, T. J. et al. J. Bacteriol 165, 139-145 (1986)
- Hagiwara B et al. J. Biochem., 45, 185-194 (1958)

## Ordering Information

Product name	Storage	Product number	PKG size
Protease Inhibitr Cocktail for General Use (100x)	-20°C	04080-11	5 x 1 ml
Protease Inhibitr Cocktail (EDTA free) (100x)	-20°C	03969-21	5 x 1 ml
Protease Inhibitr Cocktail for Use with Mammalian Cell and Tissue Extracts (100x)	-20°C	25955-11	5 x 1 ml

For research use only, not intended for diagnostic or drug use.

## NACALAI TESQUE, INC.

Nijo Karasuma, Nakagyo-ku, Kyoto 604-0855, JAPAN

TEL : +81-(0)75-251-1730

FAX : +81-(0)75-251-1763

Website : <http://www.nacalai.com>

E-mail : [info.intl@nacalai.com](mailto:info.intl@nacalai.com)