

Phosphatase Inhibitor Cocktail (100X)



Cat. No. C51003

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Description

Dynamic protein phosphorylation is a key cellular signaling mechanism whereby a broad spectrum of cellular processes is regulated. Therefore, it is of interesting to study the phosphorylation status of specific target proteins. As crude cell extracts contain a number of endogenous phosphatases, which are capable of dephosphorylating proteins in the extracts, it is critical to add phosphatase inhibitors to the cell lysis buffer to preserve the phosphorylated residues of interest.

A cocktail of five phosphatase inhibitors in Tube A will inhibit acid and alkaline phosphatases as well as protein tyrosine phosphatases (PTPs). A cocktail of three phosphatase inhibitors in Tube B will inhibit alkaline phosphatases and Ser/Thr protein phosphatases such as PP1 and PP2A. Both cocktails have been optimized and tested for cell lysates and tissue, including samples containing detergents.

Components & Properties

Tube	Components	Properties
A (in ddH ₂ O)	Sodium Fluoride	Acid phosphatases inhibitor
	Sodium Orthovanadate	Inhibitor of Alkaline phosphatases, PTPs, ATPases
	Sodium Tartrate	Acid phosphatases inhibitor
	Sodium Molybdate	Inhibitor of Acid and phosphoprotein phosphatases
	Imidazole	Alkaline phosphatases inhibitor
B (in DMSO)	(-)-p-Bromotetramisole oxalate	Alkaline phosphatases inhibitor
	Cantharidin	Ser/Thr phosphatases inhibitor
	Microcystin LR (from <i>Microcystis aeruginosa</i>)	Inhibitor of PP1 and PP2A

*Compatible with common detergents such as 1% SDS, Triton, and NP-40

*DTT, EDTA, and EGTA may reduce the protective activity of Sodium Orthovanadate

Storage/Stability

Store at -20 °C stable for at least 12 months.

Recommended Usage

This cocktail kit comprises two ready-to-use 100x concentrated solutions within tube A and tube B. It is suggested to apply both cocktails at the same time to obtain a synergistic effect. Prior to lysing cells, the desired lysis buffer will first mix with an appropriate amount of Tube A cocktail, then mix with the Tube B cocktail to obtain the final 1X working solution (for instance, 10µL of each cocktail will be added into 1ml extraction solution).

Note:

1. Mix the solution well after each addition.
2. Not all lysates contain the same levels of endogenous enzymes, and it may be necessary to adjust the volume of cocktail required.