

Product Information

Phosphatase Inhibitor Cocktail 3

DMSO solution, for serine/threonine protein phosphatases and L-isozymes of alkaline phosphatase

P0044

Product Description

Crude cell extracts contain various endogenous enzymes, such as proteases and phosphatases, which can modify proteins present in the extract. The best way to improve the yield of native proteins is to add inhibitors of these enzymes which may be present in the source material.

Phosphatase Inhibitor Cocktail 3 has been tested on extracts from various animal tissues, such as human placenta and bovine liver, and on extracts of A431, CHO, and U937 cells. P0044 has been optimized and tested for L-isozymes of alkaline phosphatase as measured with *p*-nitrophenyl phosphate (pNPP) at pH 10.4, as well as for serine/threonine protein phosphatases (protein phosphatases 1 and 2A) as measured by dephosphorylation of ³²P-Ser phosphorylase- α at pH 7.5.

The individual components of this proprietary formulation have specific inhibitory properties:

- Cantharidin: inhibits protein phosphatase 2A (PP-2A)¹
- (-)-*p*-Bromolevamisole oxalate: inhibits L-isozymes of alkaline phosphatases²
- Calyculin A: inhibits protein phosphatases 1 and 2A (PP-1 and PP-2A)^{3,4}

Several theses⁵ and dissertations⁶⁻²³ have cited use of product P0044 in their protocols.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Product

P0044 is supplied as a clear solution in dimethyl sulfoxide (DMSO).

Storage/Stability

The cocktail is shipped on cooler packs ('wet ice'). Long-term storage at 2-8 °C is recommended. P0044, as supplied, is stable for two years.

Usage

The recommended dilution of P0044 in biological extracts is 1 mL of the cocktail per 500 mg of protein extracted from tissue or cells. In many cases, the cocktail can be used at a final concentration of 1% (v/v, 1 mL of cocktail solution per 100 mL of extraction buffer).

A 1% (v/v) final concentration of the cocktail in extraction buffer will inhibit phosphatase activities found in the 27,000 × *g* supernatant from human placenta and bovine liver, and in the 100,000 × *g* supernatant from A431, CHO, and U937 cell extracts, with a protein concentration of ~5 mg/mL.

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