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Product Information

Protein Phosphatase Inhibitor 1, human recombinant, expressed in *E. coli*

Catalog Number **P2745**
Storage Temperature –70 °C

Synonyms: IPP-1, I-1

Product Description

Protein phosphatase inhibitor 1 is a recombinant human protein expressed in *E. coli*. IPP-1 is a specific inhibitor of Type-1 protein serine/threonine phosphatases (PP1).[1,2] PP1 are expressed in all eukaryotic cells and have a role in lipid and carbohydrate metabolism, protein synthesis, and gene transcription. Activation of IPP-1 is modulated by a balance of kinase and phosphatase activity including phosphorylation of Thr^{35} catalyzed by PKA, and dephosphorylation and inactivation in the presence of Ca^{2+} by Calcineurin (PP2B).[3] The recombinant protein has an apparent molecular mass of ~27 kDa (SDS-PAGE).

This product is suitable for use as a substrate to identify novel phosphatases and kinases that modulate protein phosphatase inhibitor 1 activity and to measure the effect on its activity with Type-1 protein serine/threonine phosphatase preparations. This product is also suitable for use in affinity pull-down binding studies.

The product is supplied in a solution in 50 mM Tris-HCl, pH 7.0, containing 0.1 mM PMSF, 14 mM 2-mercapto-ethanol, and 10% glycerol.

Purity: minimum 95% (SDS-PAGE)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at –70 °C is recommended.

Allow material to come to room temperature before opening. For maximum recovery, centrifuge vial prior to removing the cap. Upon initial opening, remove the required volume and store the remaining material in aliquots at –70 °C. The product remains active for 1 year if stored properly.

References

1. Connor, J.H., et al., Inhibitor-1 interaction domain that mediates the inhibition of protein phosphatase-1, J. Biol. Chem., **273**, 27716-27724 (1998).
2. Connor, J.H., et al., Importance of the β12-β13 loop in protein phoshatase-1 catalytic subunit for inhibition by toxins and mammalian protein inhibitors. J. Biol. Chem., **274**, 22366-22372 (1999).
3. Endo, S., et al., Multiple structural elements define the specificity of recombinant human inhibitor-1 as a protein phosphatase-1 inhibitor. Biochemistry, **35**, 5220-5228 (1996).

JJ,LS,LKB,JWM,RBG,MAM 03/12-1