



Product Information

**Protein Phosphatase 2A Inhibitor Protein,
2- α - GST Tagged
human, recombinant**
expressed in *E. coli*

Product Number **P 2618**
Storage Temperature $-70\text{ }^{\circ}\text{C}$

Synonyms: $I_2\alpha^{PP2A}$ -GST; I_2^{PP2A} -GST; GST- $I_2\alpha$

Product Description

Human Protein Phosphatase 2A Inhibitor Protein, 2- α -GST tagged (I_2^{PP2A} -GST) is a GST fusion of I_2^{PP2A} , a potent heat-stable PP2A inhibitor. This fusion protein has a molecular mass of approximately 67 kDa. All known activities of the native protein are maintained in this fusion form, making it a highly effective tool for binding and pull-down studies.

This protein inhibits all forms of PP2A with a k_i of approximately 0.1 nM with myelin basic protein, histone H1, and other substrates, but not with casein. PP2A is inhibited by this protein in a manner noncompetitive with the substrate and it is considered specific for PP2A. I_2^{PP2A} has been determined to be the equivalent of the acute undifferentiated leukemia-associated SET protein (also termed PHAP-II and TAF-1 β).¹ Additionally, I_2^{PP2A} has been shown to act as an activator of c-Jun and AP-1 directed gene expression.¹ I_2^{PP2A} is primarily located in the nucleus of most mammalian cell types.

PP2A is a major mammalian protein serine/threonine phosphatase involved in the regulation of diverse cellular processes. This regulation is effected through control of signaling pathways by a mechanism of phosphorylation/dephosphorylation with a variety of protein kinases. Importantly, PP2A is believed to play a role in the regulation of NF- κ B signaling, which has been shown to promote cell survival and escape from apoptosis.²

This product is supplied as a solution of 50 mM Tris-HCl, pH 7.0, containing 14 mM 2-mercaptoethanol, 1 mM benzamidine, 0.1 mM PMSF, 1 mM EDTA, 0.1% BRIJ[®] 35, and 10% glycerol.

Purity: minimum 90% (SDS-PAGE)

Precautions and Disclaimer

This product is for laboratory use only. Please consult the Material Data Safety Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and it is recommended to store the product at $-70\text{ }^{\circ}\text{C}$. After thawing, store stock solutions as aliquots at $-70\text{ }^{\circ}\text{C}$. Avoid repeated freeze-thaw cycles.

References

1. Al-Murrani, S.W.K., et al., Expression of I_2^{PP2A} , an inhibitor of protein phosphatase 2A, induces c-Jun and AP-1 activity. *Biochem. J.*, **341**, 293-298 (1999).
2. Li, M., et al., Purification and characterization of two potent heat-stable protein inhibitors of protein phosphatase 2A from bovine kidney. *Biochemistry*, **34**, 1988-1996 (1995).
3. Yang, J., et al., Protein phosphatase 2A interacts with and directly dephosphorylates RelA. *J. Biol. Chem.*, **276**, 47828-47833 (2001).

4. Khang, H.S., and Choi, I., Protein phosphatase 2A modulated the proliferation of human multiple myeloma cells via regulation for the production of reactive oxygen intermediates and anti-apoptotic factors. *Cell Immuno.*, **213**, 34-44 (2001).

5. Klumpp, S., and Krieglstein, J., Serine/threonine protein phosphatases in apoptosis. *Curr. Opin. Pharmacol.*, **2**, 458-462 (2002).

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JBB/MAM 8/02

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