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Product Information

CL-100/HVH1/Mkp1 Human, Recombinant

Product Number **C 7984**
Storage Temperature -70 °C

Product Description

A human full-length CL-100/HVH1/Mkp1 recombinant GST-fusion protein expressed in *E. coli* that has been purified using glutathione-agarose.

CL-100/HVH1/Mkp1 is a dual specific 76 kDa protein phosphatase whose expression is induced by mitogenic growth factors. It specifically inactivates ERK. It selectively dephosphorylates threonine and tyrosine, but not serine residues of the activated ERK1. This inactivation can be reversed by MEK, which suggests that CL-100/HVH1/Mkp1 dephosphorylates the same residues that are recognized by MEK.¹

CL-100/HVH1/Mkp1 may play an important role in cellular response to ionizing radiation and the tumor necrosis factor- α by attenuating the DNA binding activities of the transcription factor AP-1 by dephosphorylating mitogen-activated protein kinase. Treatment with cycloheximide did not prevent ionizing radiation or tumor necrosis factor- α -inducible expression of CL-100/HVH1/Mkp1. This indicates that the response is independent of new protein synthesis.² Overexpression of CL-100/HVH1/Mkp1 prevents TGF β 1 promoter activation by high glucose.³

Supplied as 500 units in 100 μ l of 50 mM Tris-HCl buffer, 10% glycerol, pH 8.0, before addition of glycerol to 10%.

Unit Definition: One unit will hydrolyze 1 pmole of phosphate from 3-O-methyl-fluorescein phosphate per minute at pH 8.2 at 30 °C.

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 °C. For maximum quantitative recovery centrifuge the vial after thawing and prior to removal of cap. Avoid repeated freeze-thaw cycles.

References

1. Zheng, C. F., *et al.*, Dephosphorylation and inactivation of the mitogen-activated protein kinase by a mitogen-induced Thr/Tyr protein phosphatase. *J. Biol. Chem.*, **268**, 16116-16119 (1993).
2. Kasid, U., *et al.*, Ionizing radiation and TNF- α stimulate gene expression of a Thr/Tyr-protein phosphatase HVH1 and inhibitory factor I κ B α in human squamous carcinoma cells. *Mol. Cell Biochem.*, **173**, 193-197 (1997).
3. Isono, M., *et al.*, Extracellular signal-regulated kinase mediates stimulation of TGF- β 1 and matrix by high glucose in mesangial cells. *J. Am. Soc. Nephrol.*, **11**, 2222-2230 (2000).

AGW 12/01

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