

Recombinant Mouse Smad4 Protein, Myc/DDK-tagged

Cat. No. Smad4-5952M Lot. No. (See product label)

SPECIFICATION

Product Overview Purified recombinant protein of mouse full-length SMAD family member 4 (Smad4), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species Mouse

Source HEK293

Description

Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling. Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF-beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression. Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions. In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8.

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Molecular Mass	60.3 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Smad4 SMAD family member 4 [Mus musculus (house mouse)]
Official Symbol	Smad4
Synonyms	SMAD4; MAD homolog 4 (Drosophila); mothers against decapentaplegic homolog 4; Smad 4; SMAD family member 4; mothers against DPP homolog 4; deletion target in pancreatic carcinoma 4 homolog; DPC4; Madh4; AW743858; D18Wsu70e
Gene ID	17128
mRNA Refseq	NM_008540
Protein Refseq	NP_032566
UniProt ID	P97471

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