Active Recombinant Full Length Human SMAD3 Protein, C-Flag-tagged

Cat. No. SMAD3-227HFL **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Full Length Human SMAD3 Protein, fused to Flag-tag at C-terminus, was expressed in Mammalian cells.
Species	Human
Source	Mammalian Cells
Description	The SMAD family of proteins are a group of intracellular signal transducer proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. The SMAD3 protein functions in the transforming growth factor-beta signaling pathway, and transmits signals from the cell surface to the nucleus, regulating gene activity and cell proliferation. It also functions as a tumor suppressor. Mutations in this gene are associated with aneurysms-osteoarthritis syndrome and Loeys-Dietz Syndrome 3.
Form	25 mM Tris HCl, pH 7.3, 100 mM glycine, 10% glycerol.
Bio-activity	SMAD3 Activity Verified in a DNA-binding Assay: SMAD3 activity was measured in a colorimetric DNA-binding assay. Purified SMAD3 protein containing a C-terminal MYC/DDK tag was incubated with biotinylated double-stranded oligonucleotide containing the SMAD3 consensus DNA-binding sequence. Following incubation, the reaction was transferred to a streptavidin-coated microplate to allow capture of the DNA-protein complex. After washing, the captured protein was detected with an anti-

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	DDK peroxidase conjugate and colorimetric signal detection with TMB. Specificity of the protein-DNA interaction was confirmed by carrying out the binding in the presence of an unlabeled competitor oligonucleotide and by comparison to binding to an oligonucleotide containing a mutation in the consensus binding sequence.
Molecular Mass	47.9 kDa
AA Sequence	MSSILPFTPPIVKRLLGWKKGEQNGQEEKWCEKAVKSLVKKLKKTGQLDELEKAITT QNVNTKCITIPRS LDGRLQVSHRKGLPHVIYCRLWRWPDLHSHHELRAMELCEFAF NMKKDEVCVNPYHYQRVETPVLPPVLV PRHTEIPAEFPPLDDYSHSIPENTNFPAGI EPQSNIPETPPPGYLSEDGETSDHQMNHSMDAGSPNLSPN PMSPAHNNLDLQPVT YCEPAFWCSISYYELNQRVGETFHASQPSMTVDGFTDPSNSERFCLGLLSNVNRN AAVELTRRHIGRGVRLYYIGGEVFAECLSDSAIFVQSPNCNQRYGWHPATVCKIPPG CNLKIFNNQEFAA LLAQSVNQGFEAVYQLTRMCTIRMSFVKGWGAEYRRQTVTSTP CWIELHLNGPLQWLDKVLTQMGSPSIR CSSVSTRTRPLEQKLISEEDLAANDILDYKDDDDKV
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.
Concentration	>50 ug/mL as determined by microplate BCA method.
Preparation	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.
Protein Families	Cancer stem cells, Druggable Genome, Embryonic stem cells, ES Cell

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	Differentiation/IPS, Stem cell relevant signaling - JAK/STAT signaling pathway, Stem cell relevant signaling - TGFb/BMP signaling pathway, Transcription Factors
Protein Pathways	Adherens junction, Cell cycle, Chronic myeloid leukemia, Colorectal cancer, Pancreatic cancer, Pathways in cancer, TGF-beta signaling pathway, Wnt signaling pathway
Full Length	Full L.

GENE INFORMATION

Gene Name	SMAD3 SMAD family member 3 [Homo sapiens (human)]
Official Symbol	SMAD3
Synonyms	LDS3; mad3; LDS1C; MADH3; JV15-2; hMAD-3; hSMAD3; HSPC193; HsT17436
Gene ID	4088
mRNA Refseq	NM_005902.4
Protein Refseq	NP_005893.1
MIM	603109
UniProt ID	P84022

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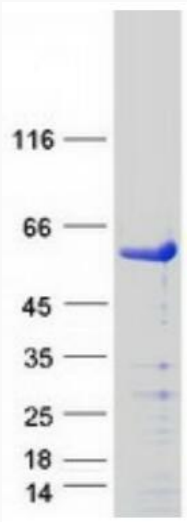

Coomassie blue staining of purified SMAD3 protein.

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