

Recombinant Human SMAD1, His-tagged

Cat. No. SMAD1-11H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Human SMAD1(Met1-Ser465), transcript variant 2, fused with both N- and C-terminal HIS, was expressed in E. coli.

Species Human

Source E.coli

ProteinLength 1-465 a.a.

Description

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signals of the bone morphogenetic proteins (BMPs), which are involved in a range of biological activities including cell growth, apoptosis, morphogenesis, development and immune responses. In response to BMP ligands, this protein can be phosphorylated and activated by the BMP receptor kinase. The phosphorylated form of this protein forms a complex with SMAD4, which is important for its function in the transcription regulation. This protein is a target for SMAD-specific E3 ubiquitin ligases, such as SMURF1 and SMURF2, and undergoes ubiquitination and proteasome-mediated degradation. Alternatively spliced transcript variants encoding the same protein have been observed.

Molecular Mass 78.7 kDa

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|-----------------------|---|
| Endotoxin | < 0.1 EU per g protein as determined by LAL test |
| Purity | >95% as determined by SDS-PAGE and Coomassie blue staining |
| Concentration | Resuspend the protein to the desired concentration in proper buffer. |
| Storage Buffer | Lyophilized from a 0.2 M filtered solution of 20mM Tris-HCl, 150mM NaCl, pH 8.0. Stable for at least 6 months from date of receipt under proper storage and handling conditions. |

GENE INFORMATION

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|------------------------|--|
| Gene Name | SMAD1 SMAD family member 1 [Homo sapiens (human)] |
| Official Symbol | SMAD1 |
| Synonyms | SMAD1; SMAD family member 1; BSP1; JV41; JV4-1; MADH1; MADR1; Sma- and Mad-related protein 1; Mad-related protein 1; TGF-beta signaling protein 1; mothers against DPP homolog 1; SMAD, mothers against DPP homolog 1; MAD, mothers against decapentaplegic homolog 1; transforming growth factor-beta signaling protein 1; MAD, mothers against decapentaplegic homolog 1 (Drosophila); SMAD, mothers against DPP homolog 1 (Drosophila); Mothers against decapentaplegic homolog 1; hSMAD1; BSP-1; CMT2D; GARS; HMN5; Mad-related protein 1; SMAD 1; Transforming growth factor-beta-signaling protein 1 |
| Gene ID | 4086 |
| mRNA Refseq | NM_001003688 |
| Protein Refseq | NP_001003688 |

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|----------------------------|--|
| MIM | 601595 |
| UniProt ID | Q15797 |
| Chromosome Location | 4q31 |
| Pathway | ALK1 signaling events; BMP receptor signaling; ErbB1 downstream signaling |
| Function | I-SMAD binding; RNA polymerase II core promoter proximal region sequence-specific DNA binding; RNA polymerase II core promoter sequence-specific DNA binding |

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