

Recombinant Human SMAD6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50904

Size: 10ug, 100ug

Protein Name: SMAD family member 6 (SMAD 6) (hSMAD6) (Mothers against decapentaplegic homolog 6) (MAD homolog 6) (Mothers against DPP homolog 6)

Synonym: SMAD6, MADH6

UniProt ID: O43541

UniProt Link: www.uniprot.org/uniprotkb/O43541/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 496 AA

Molecular Weight: 53 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MFRSKRSGLVRRLLWRSRVVPDREEGGSGGGGGGDEDEDGSLGSRAEPAPRAREGGGCGRSEVRPV
APRRPRDAVGQRGAQGAGRRRRAGGPPRPMSEPGAGAGSSLLDVAEPGGPGWLPESDCETVTC
CLFSERDAAGAPRDASDPLAGAALEPAGGGRSREARSRLLLLEQELKTVTYSLLKRLKERSLDTLLE
AVESRGGVPGGCVLVPRADLRLGGQPAPPQLLLGRLFRWPDQLHAVELKPLCGCHSF AAAADGPT
VCCNPYHFSRLCGPESPPPPYSRLSPRDEYKPLDLSDSLSTYSYTETATNSLITAPGEFSDASMSPDA
TKPSHWCSVAYWEHRTRVGRLYAVYDQAVSIFYDL PQGSGFCLGQLNLEQRSESVRRTRSKIGFGI
LLSKEPDGVWAYNRGEHPIFVNSPTLDAPGGRALVVRKVPPGYSIKVFD FERSGLQHAPEPDAADG
PYDPNSVRISFAKGWGPCYSRQFITSCPCWLEILLNNPR

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant SMAD family member 6 (SMAD 6) (hSMAD6) (Mothers against decapentaplegic homolog 6) (MAD homolog 6) (Mothers against DPP homolog 6) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Acts as an inhibitory regulator of signaling mediated by the TGF-beta superfamily, with strong selectivity toward BMP-dependent pathways (PubMed:10647776, PubMed:10708948, PubMed:10708949, PubMed:16951688, PubMed:22275001, PubMed:30848080, PubMed:9436979, PubMed:9759503). Suppresses IL1R-TLR signaling through its direct interaction with PEL1, preventing NF-kappa-B activation, nuclear translocation and NF-kappa-B-mediated expression of pro-inflammatory genes (PubMed:16951688). Blocks the BMP-SMAD1 signaling pathway by competing with SMAD4 for receptor-activated SMAD1-binding (PubMed:30848080, PubMed:9436979). Associates with regulatory elements in target promoter regions (PubMed:16491121). Functions as an adapter protein that recruits ubiquitin ligases, including SMURF1 and, in some contexts, SMURF2, promoting proteasomal degradation of signaling components and transcription factors such as RUNX2, TBX6, BMPR1A and MYD88 (PubMed:16299379, PubMed:19561075, PubMed:28847510).

Subcellular Localization: Nucleus . Cytoplasm .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.