

Recombinant Rat SMAD7 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52221

Size: 10ug, 100ug

Protein Name: SMAD family member 7 (SMAD 7) (Mothers against decapentaplegic homolog 7) (MAD homolog 7) (Mothers against DPP homolog 7)

Synonym: Smad7, Madh7

UniProt ID: O88406

UniProt Link: www.uniprot.org/uniprotkb/O88406/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 426 AA

Molecular Weight: 46 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MFRTKRSALVRRLWRSRAPGGEDEEEGVGGGGGGGGLRGEGATDGRAYGAGGGGAGRAGCCL
GKAVRGAKGHHHPHPSSGAGAAGGAADLKALTHSVLKKLKERQLELLQAVESRGGTRTACLL
PGRDCRLGPGAPASAPPAQPPSSYSLPLLCKVFRWPDLRHSSEVKRLCCCESYGKINPELVCCN
PHHLSRLCELESPPPPYSRYPMDFLKPTADCPDAVPSSDETGGTNYLAPGGLSDSQLLLEPGDRSH
WCVVAYWEEKTRVGRLYCVQEPSLDIFYDLPPQNGFCLGQLNSDNKSQLVQKVRISKIGCGIQLTRE
VDGVVYVNRSSYPFIKSATLDNPDSRTLLVHKVFPGFSSIAFDYEKAYSLQRPNDHEFMQQPWTGF
TVQISFVKGWGQCCTRYQFISSCPCWLEIVFNSR

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 7 (SMAD 7) (Mothers against decapentaplegic homolog 7) (MAD homolog 7) (Mothers against DPP homolog 7) 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: Antagonist of signaling by TGF-beta (transforming growth factor) type 1 receptor superfamily members; has been shown to inhibit TGF-beta (Transforming growth factor) and activin signaling by associating with their receptors thus preventing SMAD2 access. Functions as an adapter to recruit SMURF2 to the TGF-beta receptor complex. Also acts by recruiting the PPP1R15A-PP1 complex to TGFBR1, which promotes its dephosphorylation. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.

Subcellular Localization: Nucleus . Cytoplasm . Note=Interaction with NEDD4L or RNF111 induces translocation from the nucleus to the cytoplasm. TGF-beta stimulates its translocation from the nucleus to the cytoplasm. PDPK1 inhibits its translocation from the nucleus to the cytoplasm in response to TGF-beta.

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.