



# Recombinant Protein Technical Manual

**Recombinant Human SMAD2 Protein (His & Flag Tag)**  
RPES4805

## Product Data:

**Product SKU:** RPES4805

**Size:** 10µg

**Species:** Human

**Expression host:** E. coli

**Uniprot:** Q15796

## Protein Information:

**Molecular Mass:** 54.6 kDa

**AP Molecular Mass:** 60 kDa

**Tag:** N-6His-Flag

**Bio-activity:**

**Purity:** > 90 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from a 0.2 µm filtered solution of 20mM PB,500mM NaCl, pH7.5.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Mothers against decapentaplegic homolog 2; MAD homolog 2; Mad-related protein 2; hMAD-2; SMAD family member 2; SMAD 2; Smad2; Hsmad2; SMAD2; MADH2; MADR2

## Immunogen Information:

**Sequence:** Ser2-Ser467

## Background:

Mothers against decapentaplegic homolog 2 (SMAD2) is a cytoplasm protein which belongs to the dwarfin/SMAD family. Smad proteins undergo rapid nuclear translocation upon stimulation by transforming growth factor and in so doing transduce the signal into the nucleus. Receptor-regulated SMAD is an intracellular signal transducer and transcriptional modulator activated by TGF-beta and activin type 1 receptor kinases. SMAD2 contains 1 MH1 (MAD homology 1) domain and 1 MH2 (MAD homology 2) domain. It is expressed at high levels in skeletal muscle, endothelial cells, heart and placenta. It binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. It may act as a tumor suppressor in colorectal carcinoma. And SMAD2 positively regulates PDK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.