

## Product datasheet for **TP720909XL**

### **SMAD4 (NM\_005359) Human Recombinant Protein**

#### **Product data:**

<b>Product Type:</b>	Recombinant Proteins
<b>Description:</b>	Purified recombinant protein of Human SMAD family member 4 (SMAD4)
<b>Species:</b>	Human
<b>Expression Host:</b>	E. coli
<b>Expression cDNA Clone or AA Sequence:</b>	Met1-Asp552
<b>Tag:</b>	C-His
<b>Predicted MW:</b>	61.5 kDa
<b>Concentration:</b>	lot specific
<b>Purity:</b>	>95% as determined by SDS-PAGE and Coomassie blue staining
<b>Buffer:</b>	Lyophilized from a 0.2 um filtered solution of 20mM Tris-HCl, pH 8.0.
<b>Endotoxin:</b>	Endotoxin level is < 0.1 ng/μg of protein (< 1 EU/μg)
<b>Reconstitution Method:</b>	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. Dissolve the lyophilized protein in ddH <sub>2</sub> O. It is not recommended to reconstitute a concentration less than 100 μg/ml. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
<b>Storage:</b>	Lyophilized protein should be stored at < -20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Stability:</b>	Stable for at least 6 months from date of receipt under proper storage and handling conditions.
<b>RefSeq:</b>	<a href="#">NP_005350</a>
<b>Locus ID:</b>	4089
<b>UniProt ID:</b>	<a href="#">Q13485</a> , <a href="#">A0A024R274</a>
<b>RefSeq Size:</b>	3220
<b>Cytogenetics:</b>	18q21.2
<b>RefSeq ORF:</b>	1656
<b>Synonyms:</b>	DPC4; JIP; MADH4; MYHR5



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**Summary:**

This gene encodes a member of the Smad family of signal transduction proteins. Smad proteins are phosphorylated and activated by transmembrane serine-threonine receptor kinases in response to transforming growth factor (TGF)-beta signaling. The product of this gene forms homomeric complexes and heteromeric complexes with other activated Smad proteins, which then accumulate in the nucleus and regulate the transcription of target genes. This protein binds to DNA and recognizes an 8-bp palindromic sequence (GTCTAGAC) called the Smad-binding element (SBE). The protein acts as a tumor suppressor and inhibits epithelial cell proliferation. It may also have an inhibitory effect on tumors by reducing angiogenesis and increasing blood vessel hyperpermeability. The encoded protein is a crucial component of the bone morphogenetic protein signaling pathway. The Smad proteins are subject to complex regulation by post-translational modifications. Mutations or deletions in this gene have been shown to result in pancreatic cancer, juvenile polyposis syndrome, and hereditary hemorrhagic telangiectasia syndrome. [provided by RefSeq, Aug 2017]

**Protein Families:**

Druggable Genome, 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