

**Smad5 Antibody**  
Rabbit mAb  
Catalog # AP90261

## Specification

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### Smad5 Antibody - Product Information

Application **WB, IHC, FC, ICC**  
Primary Accession [Q99717](#)  
Reactivity **Rat**  
Clonality **Monoclonal**

#### Other Names

Dwfc; JV5-1; MADH5; DKFZp781C1895; DKFZp781O1323; SMAD5;

Isotype **Rabbit IgG**  
Host **Rabbit**  
Calculated MW **52258 Da**

### Smad5 Antibody - Additional Information

Dilution **WB~~1:1000**  
**IHC~~1:100~500**  
**FC~~1:10~50**  
**ICC~~N/A**

Purification **Affinity-chromatography**  
Immunogen **A synthesized peptide derived from human Smad5**

Description **Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. Smad5 is a receptor-regulated Smad (R-Smad). Smad5 is required for normal development of the cardiovascular system in vivo; lack of the Smad5 gene results in apoptosis of cardiac myocytes. 3 Upregulation of Smad5 has been reported to mediate apoptosis of gastric epithelial cells induced by Helicobacter pylori infection. Tissue specificity: Ubiquitous.**

Storage Condition and Buffer **Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.**

### Smad5 Antibody - Protein Information

Name SMAD5 ([HGNC:6771](#))

Synonyms MADH5

### Function

Transcriptional regulator that plays a role in various cellular processes including embryonic development, cell differentiation, angiogenesis and tissue homeostasis (PubMed:<a href="http://www.uniprot.org/citations/12064918" target="\_blank">12064918</a>, PubMed:<a href="http://www.uniprot.org/citations/16516194" target="\_blank">16516194</a>). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRI) and associates with SMAD4 to form a heteromeric complex which translocates into the nucleus acting as transcription factor (PubMed:<a href="http://www.uniprot.org/citations/9442019" target="\_blank">9442019</a>). In turn, the hetero-trimeric complex recognizes cis- regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:<a href="http://www.uniprot.org/citations/33510867" target="\_blank">33510867</a>). Non-phosphorylated SMAD5 has a cytoplasmic role in energy metabolism regulation by promoting mitochondrial respiration and glycolysis in response to cytoplasmic pH changes (PubMed:<a href="http://www.uniprot.org/citations/28675158" target="\_blank">28675158</a>). Mechanistically, interacts with hexokinase 1/HK1 and thereby accelerates glycolysis (PubMed:<a href="http://www.uniprot.org/citations/28675158" target="\_blank">28675158</a>).

### Cellular Location

Cytoplasm. Nucleus Mitochondrion. Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4

### Tissue Location

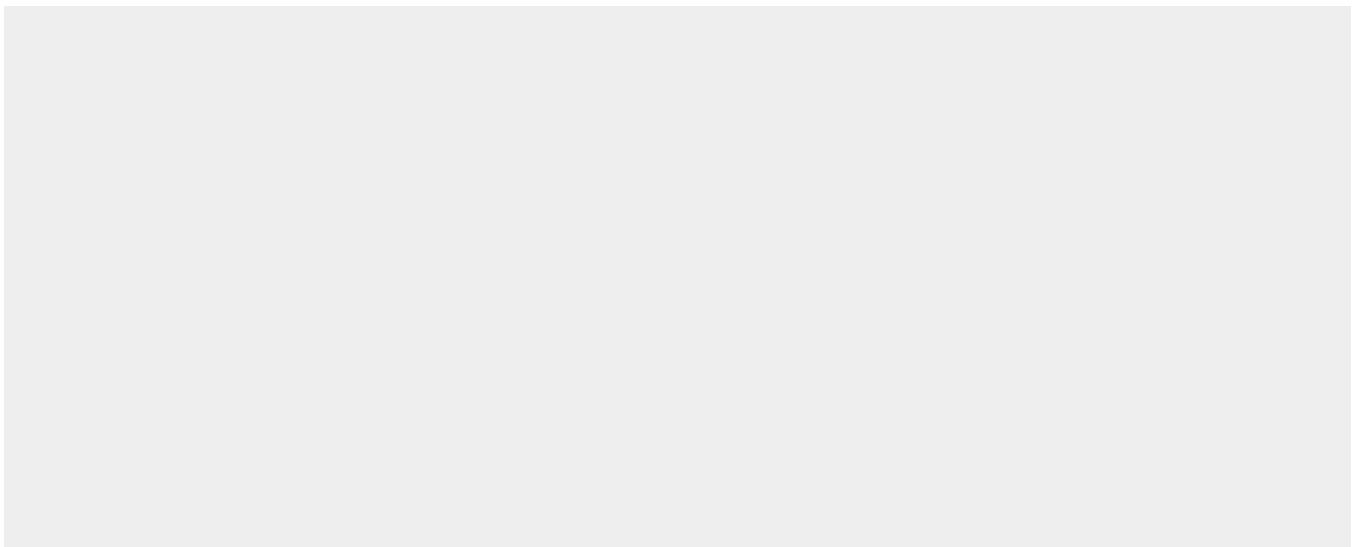
Ubiquitous.

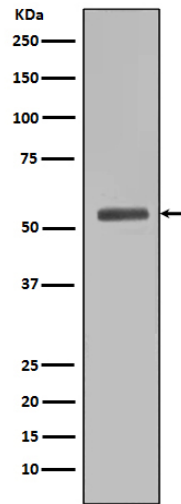
### Smad5 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Smad5 Antibody - Images





Western blot analysis of Smad5 expression in HEK293 cell lysate.