

**Phospho-Smad5 (S463/465) Antibody**  
Rabbit mAb  
Catalog # AP90177**Specification****Phospho-Smad5 (S463/465) Antibody - Product Information**

Application	WB, IHC, ICC
Primary Accession	<a href="#">Q99717</a>
Reactivity	Rat
Clonality	Monoclonal
<b>Other Names</b>	
hSmad5; JV5-1 ; MADH5; SMAD5; MusMLP ;SMAD family member 5;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	52258 Da

**Phospho-Smad5 (S463/465) Antibody - Additional Information**

Purification	<b>Affinity-chromatography</b>
Immunogen	<b>A synthesized peptide derived from human Phospho-Smad5 (S463/465)</b>
Description	<b>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.</b>
Storage Condition and Buffer	<b>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.</b>

**Phospho-Smad5 (S463/465) Antibody - Protein Information****Name** SMAD5**Synonyms** MADH5**Function**

Transcriptional regulator that plays a role in various cellular processes including embryonic development, cell differentiation, angiogenesis and tissue homeostasis (PubMed: [12064918](http://www.uniprot.org/citations/12064918), PubMed: [16516194](http://www.uniprot.org/citations/16516194)). 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 an 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

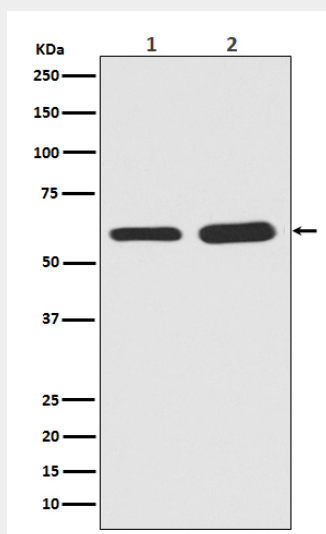
Ubiquitous.

### Phospho-Smad5 (S463/465) 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](#)

### Phospho-Smad5 (S463/465) Antibody - Images



Western blot analysis of Phospho-Smad5 in (1) Mouse brain tissue lysate; (2) Rat brain tissue lysate.