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Phospho-Smad5 (S463/465) Antibody
Rabbit mAb
Catalog # AP90177

Specification

Phospho-Smad5 (S463/465) Antibody - Product Information

Application	**WB, IHC, ICC**
Primary Accession	Q99717
Reactivity	**Rat**
Clonality	**Monoclonal**

Other Names
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

Dilution	**WB~~1:1000** **IHC~~1:100~500** **ICC~~N/A**
Purification	**Affinity-chromatography**
Immunogen	**A synthesized peptide derived from human Phospho-Smad5 (S463/465)**
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.**
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.**

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, PubMed:<a

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

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

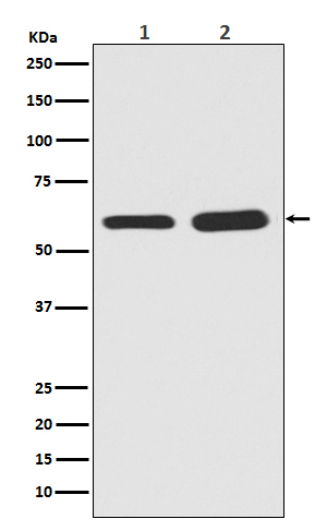
Tissue Location
Ubiquitous.

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 Cytomety
- 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.