

Smad5 Rabbit mAb

Catalog # AP76096

Product Information

Application	WB, IHC-P, FC
Primary Accession	Q99717
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	52258

Additional Information

Gene ID	4090
Other Names	SMAD5
Dilution	WB~~1:1000-1:5000 IHC-P~~N/A FC~~1:20-1:100
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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: 12064918 , PubMed: 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 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

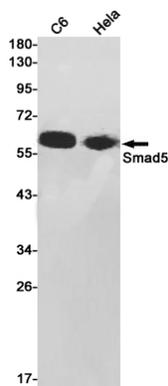
Tissue Location

Ubiquitous.

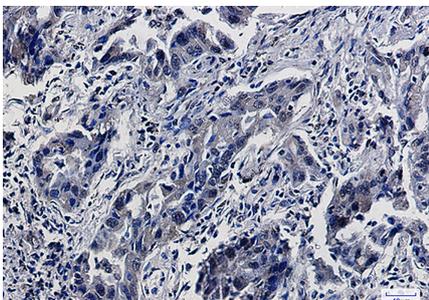
Background

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.

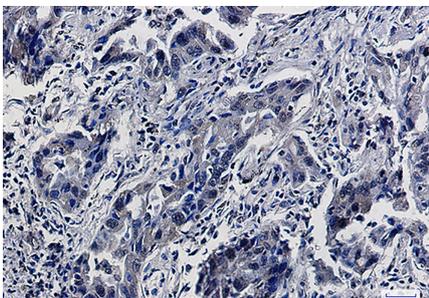
Images

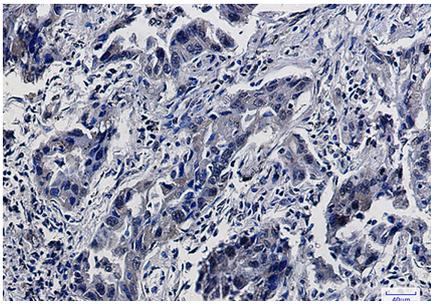


Western blot analysis of Smad5 in C6, HeLa lysates using Smad5 antibody.



Immunohistochemistry analysis of paraffin-embedded Human lung cancer using SMAD5 antibody. High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.





Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.