

Anti-SMAD5 Antibody

Catalog # AP96140

Product Information

Application	WB, FC, IF/IC
Primary Accession	Q99717
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	52258

Additional Information

Gene ID	4090
Other Names	MADH5; Mothers against decapentaplegic homolog 5; MAD homolog 5; Mothers against DPP homolog 5; JV5-1; SMAD family member 5; SMAD 5; Smad5; hSmad5
Target/Specificity	Purified recombinant human SMAD5 (C-terminus) protein fragments expressed in E.coli.
Dilution	WB~~WB (1/500 - 1/1000) FC~~FC (1/50 - 1/100) IF/IC~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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](#)).

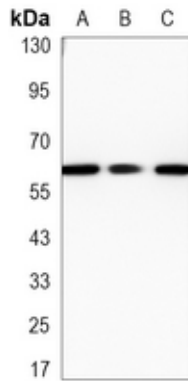
Cellular Location

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

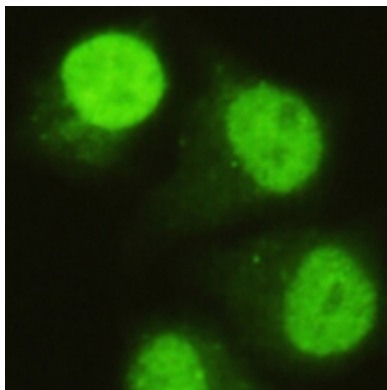
Tissue Location

Ubiquitous.

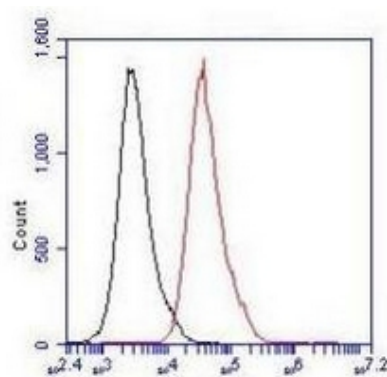
Images



Western blot analysis of SMAD5 expression in HeLa (A), Jurkat (B), K562 (C) whole cell lysates. (Predicted band size: 52 kD; Observed band size: 60 kD)



Immunofluorescent analysis of SMAD5 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark.



Flow cytometric analysis of SMAD5 in Jurkat cells (red). Black line histogram represents the isotype control.

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