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Anti-SMAD5 Antibody (4B10-B10-B6)

Mouse Monoclonal Antibody
Catalog # ABV12070

Product Information

Application	WB, IF, FC
Primary Accession	Q99717
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	4B10-B10-B6
Calculated MW	52258

Additional Information

Gene ID	4090
Application & Usage	WB: Hela, Jurkat and K562 cell lysates; IF: HeLa cells; FC: Jurkat cells
Other Names	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	SMAD5
Antibody Form	Liquid
Appearance	Colorless liquid
Formulation	In buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.2% sodium azide, 50% glycerol
Handling	The antibody solution should be gently mixed before use.
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Anti-SMAD5 Antibody (4B10-B10-B6) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

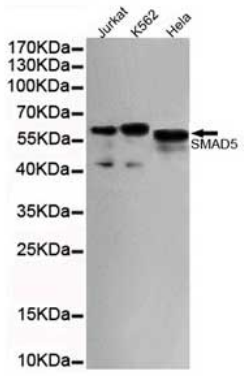
Name	SMAD5
Synonyms	MADH5

Function	Transcriptional regulator that plays a role in various cellular processes including embryonic development, cell differentiation, angiogenesis and tissue homeostasis (PubMed:12064918, PubMed: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.

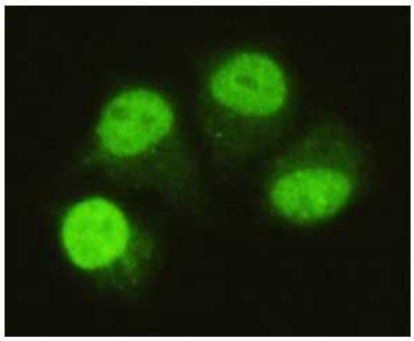
Background

Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. SMAD5 is a receptor-regulated SMAD (R-SMAD).

Images

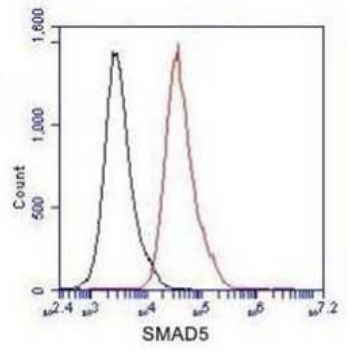


Western blot detection of SMAD5 (C-terminus) in Hela, Jurkat and K562 cell lysates using SMAD5 (C-terminus) Antibody



Immunocytochemistry of HeLa cells using anti-SMAD5 (C-terminus) Antibody

Flow Cytometry analysis of Jurkat cells stained with SMAD5 (red, 1/100 dilution), followed by FITCconjugated goat anti-mouse IgG



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