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KD-Validated Anti-SMAD5 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1284

Product Information

Application	WB, FC, ICC
Primary Accession	Q99717
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB 2910
Calculated MW	52258
Gene Name	SMAD5
Aliases	SMAD Family Member 5; JV5-1; MADH5; Mothers Against Decapentaplegic Homolog; DWFC; MAD, Mothers Against Decapentaplegic Homolog 5 (Drosophila); Mothers Against Decapentaplegic, Drosophila, Homolog Of, 5; SMAD, Mothers Against DPP Homolog 5 (Drosophila) 2; MAD, Mothers Against Decapentaplegic Homolog 5; SMAD, Mothers Against DPP Homolog 5; SMA-And MAD-Related Protein 5; Mothers Against DPP Homolog 5; MAD Homolog 5; SMAD 5; HSmad5; Smad5; Dwfc
Immunogen	A synthesized peptide derived from human Smad5

Additional Information

Gene ID	4090
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, SMAD5, MADH5

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 (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.

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