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SMAD6 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1449a

Product Information

Application	WB, E
Primary Accession	O43541
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	5H3
Isotype	IgG1
Calculated MW	53497
Description	Antagonist of signaling by TGF-beta (transforming growth factor) type 1 receptor superfamily members; has been shown to inhibit selectively BMP (bone morphogenetic proteins) signaling by competing with the co-SMAD SMAD4 for receptor-activated SMAD1. SMAD6 is an inhibitory SMAD (I-SMAD) or antagonistic SMAD. Binds to regulatory elements in target promoter regions.Tissue specificity: Ubiquitous in various organs, with higher levels in lung. Isoform B is up-regulated in diseased heart tissue.
Immunogen	Purified recombinant fragment of human SMAD6 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	4091
Other Names	Mothers against decapentaplegic homolog 6, MAD homolog 6, Mothers against DPP homolog 6, SMAD family member 6, SMAD 6, Smad6, hSMAD6, SMAD6, MADH6
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SMAD6 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SMAD6 (HGNC:6772)
Synonyms	MADH6
Function	Acts as an inhibitory regulator of signaling mediated by the TGF-beta superfamily, with strong selectivity toward BMP-dependent pathways (PubMed:10647776, PubMed:10708948, PubMed:10708949, PubMed:16951688, PubMed:22275001, PubMed:30848080, PubMed:9436979, PubMed:9759503). Suppresses IL1R-TLR signaling through its direct interaction with PEL1, preventing NF-kappa-B activation, nuclear translocation and NF-kappa-B-mediated expression of pro-inflammatory genes (PubMed:16951688). Blocks the BMP-SMAD1 signaling pathway by competing with SMAD4 for receptor-activated SMAD1-binding (PubMed:30848080, PubMed:9436979). Associates with regulatory elements in target promoter regions (PubMed:16491121). Functions as an adapter protein that recruits ubiquitin ligases, including SMURF1 and, in some contexts, SMURF2, promoting proteasomal degradation of signaling components and transcription factors such as RUNX2, TBX6, BMPR1A and MYD88 (PubMed:16299379, PubMed:19561075, PubMed:28847510).
Cellular Location	Nucleus. Cytoplasm {ECO:0000250|UniProtKB:O35182}
Tissue Location	[Isoform B]: Expressed in the brain, heart, ovary, peripheral blood leukocytes, small intestine, spleen, thymus, bone marrow, fetal liver and lymph nodes.

References

1. J Biol Chem. 2006 Feb 10;281(6):3569-76. 2. Nat Immunol. 2006 Oct;7(10):1057-65. 3. J Med Genet. 2009 May;46(5):331-7.

Images

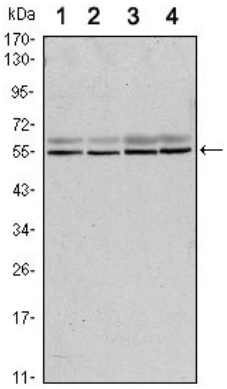


Figure 1: Western blot analysis using SMAD6 mouse mAb against A431 (1), A431 (2), Hela (3) and Jurkat (4) cell lysate.

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