10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Smad1 (Phospho-Ser465) Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52355

Product Information

Application	WB, IHC
Primary Accession	Q15797
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	52260

Additional Information

Gene ID	4086
Other Names	Mothers against decapentaplegic homolog 1, MAD homolog 1, Mothers against DPP homolog 1, JV4-1, Mad-related protein 1, SMAD family member 1, SMAD 1, Smad1, hSMAD1, Transforming growth factor-beta-signaling protein 1, BSP-1, SMAD1, BSP1, MADH1, MADR1
Dilution	WB~~1:1000 IHC~~1:50~100
Format	Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4, 150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.
Storage Conditions	-20℃

Protein Information

Name	SMAD1
Synonyms	BSP1, MADH1, MADR1
Function	Transcriptional modulator that plays a role in various cellular processes, including embryonic development, cell differentiation, and tissue homeostasis (PubMed:9335504). 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:33667543). In turn, the hetero-trimeric complex recognizes cis-regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network (PubMed:33667543). SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1. Positively regulates BMP4-induced expression of odontogenic development regulator MSX1 following IPO7-mediated nuclear import (By similarity).

Cellular Location	Cytoplasm. Nucleus Note=Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4 (PubMed:15647271). Co-localizes with LEMD3 at the nucleus inner membrane (PubMed:15647271). Exported from the nucleus to the cytoplasm when dephosphorylated (By similarity) {ECO:0000250|UniProtKB:P70340, ECO:0000269|PubMed:15647271}
Tissue Location	Ubiquitous. Highest expression seen in the heart and skeletal muscle

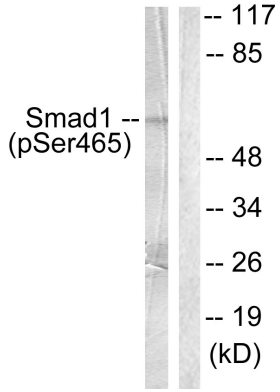
Background

Transcriptional modulator activated by BMP (bone morphogenetic proteins) type 1 receptor kinase. SMAD1 is a receptor-regulated SMAD (R-SMAD). SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1. May act synergistically with SMAD4 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression.

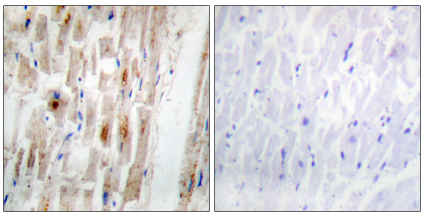
References

Riggins G.J.,et al.Nat. Genet. 13:347-349(1996).
Liu F.,et al.Nature 381:620-623(1996).
Hoodless P.A.,et al.Cell 85:489-500(1996).
Lechleider R.J.,et al.J. Biol. Chem. 271:17617-17620(1996).
Zhang Y.,et al.Nature 383:168-172(1996).

Images



Western blot analysis of extracts from HeLa cells treated with Serum (10%, 15min), using Smad1 (phospho-Ser465) antibody.



Immunohistochemical analysis of paraffin-embedded human heart tissue, using Smad1 (phospho-Ser465) antibody.

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