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Phospho-Smad2 (S255) Antibody

Rabbit mAb
Catalog # AP90859

Product Information

Application	WB, IHC, IP
Primary Accession	Q15796
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	JV18-1, MADH2, MADR2, Mad-related protein 2, Mothers against DPP homolog 2, Mothers against decapentaplegic homolog 2, Smad 2;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	52306

Additional Information

Dilution	WB 1:1000~1:2000 IHC 1:50~1:200 IP 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Smad2
Description	SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

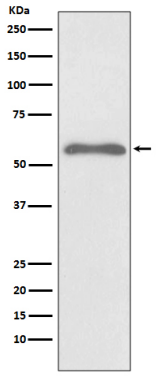
Name	SMAD2
Synonyms	MADH2, MADR2
Function	Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD2/SMAD4 complex, activates transcription. Promotes TGFB1-mediated transcription of odontoblastic differentiation genes in dental papilla cells (By similarity). Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. May act as a tumor suppressor in colorectal carcinoma (PubMed:8752209).
Cellular Location	Cytoplasm. Nucleus. Note=Cytoplasmic and nuclear in the absence of

TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 or with IPO7 (PubMed:21145499, PubMed:9865696). On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Localized mainly to the nucleus in the early stages of embryo development with expression becoming evident in the cytoplasm at the blastocyst and epiblast stages (By similarity). {ECO:0000250|UniProtKB:Q62432, ECO:0000269|PubMed:16751101, ECO:0000269|PubMed:19289081, ECO:0000269|PubMed:21145499, ECO:0000269|PubMed:9865696}

Tissue Location

Expressed at high levels in skeletal muscle, endothelial cells, heart and placenta.

Images



Western blot analysis of Phospho-Smad2 (S255) expression in Hela cell treated with Okadaic acid and Calyculin A lysate.

Image not found : 202311/AP90859-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human transitional cell carcinoma of bladder, using Phospho-Smad2 (S255) Antibody.