

ARG54741 anti-Smad 4 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes Smad 4
Tested Reactivity	Hu, Ms, Rat
Predict Reactivity	Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	Smad 4
Species	Human
Immunogen	Recombinant protein of human SMAD4 (NP_005350.1).
Conjugation	Un-conjugated
Alternate Names	Smad4; Mothers against decapentaplegic homolog 4; SMAD family member 4; MADH4; hSMAD4; DPC4; JIP; MAD homolog 4; SMAD 4; MYHRS; Mothers against DPP homolog 4; Deletion target in pancreatic carcinoma 4

Application Instructions

Application table	Application	Dilution
	ICC/IF	1:50 - 1:100
	IHC-P	1:50 - 1:100
	WB	1:500 - 1:1000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS (pH 7.3), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

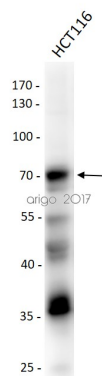
Note

For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

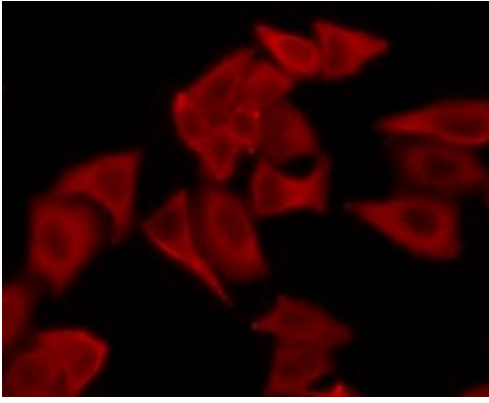
Gene Symbol	SMAD4
Gene Full Name	SMAD family member 4
Background	Smad4 gene encodes a member of the Smad family of signal transduction proteins. Smad proteins are phosphorylated and activated by transmembrane serine-threonine receptor kinases in response to TGF-beta signaling. The product of this gene forms homomeric complexes and heteromeric complexes with other activated Smad proteins, which then accumulate in the nucleus and regulate the transcription of target genes. This protein binds to DNA and recognizes an 8-bp palindromic sequence (GTCTAGAC) called the Smad-binding element (SBE). The Smad proteins are subject to complex regulation by post-translational modifications. Mutations or deletions in this gene have been shown to result in pancreatic cancer, juvenile polyposis syndrome, and hereditary hemorrhagic telangiectasia syndrome. [provided by RefSeq, Oct 2009]
Function	In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8. Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression. Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (By similarity). Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling. Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF-beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. [UniProt]
Highlight	Related products: Smad 4 antibodies ; Anti-Rabbit IgG secondary antibodies ; Related news: Therapeutic strategies against PDAC
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Cell Death antibody; Developmental Biology antibody; Gene Regulation antibody; Metabolism antibody; Signaling Transduction antibody
Calculated Mw	60 kDa
PTM	Phosphorylated by PDPK1. Monoubiquitinated on Lys-519 by E3 ubiquitin-protein ligase TRIM33. Monoubiquitination hampers its ability to form a stable complex with activated SMAD2/3 resulting in inhibition of TGF-beta/BMP signaling cascade. Deubiquitination by USP9X restores its competence to mediate TGF-beta signaling.

Images



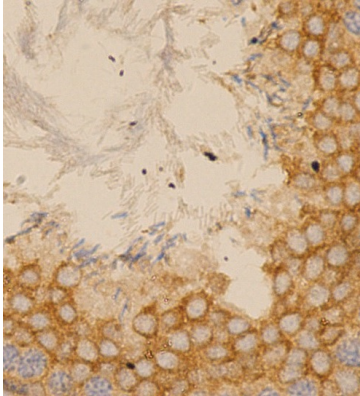
ARG54741 anti-Smad 4 antibody WB image

Western blot: 30 µg of HCT116 cell lysate stained with ARG54741 anti-Smad 4 antibody at 1:500 dilution.



ARG54741 anti-Smad 4 antibody ICC/IF image

Immunofluorescence: HeLa cells stained with ARG54741 anti-Smad 4 antibody.



ARG54741 anti-Smad 4 antibody IHC-P image

Immunohistochemistry: Formaldehyde-fixed and paraffin-embedded Mouse testis tissue stained with ARG54741 anti-Smad 4 antibody.
