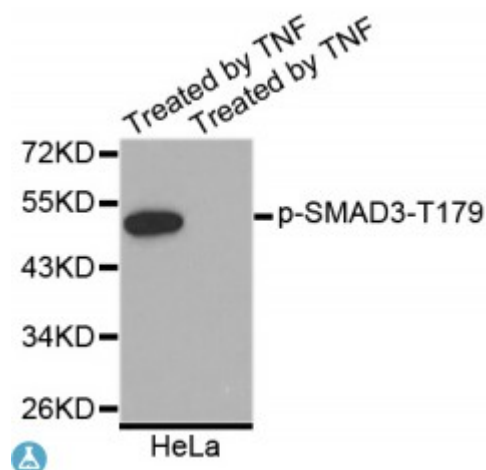


Anti-Phospho-SMAD3-(T179) Antibody



Description

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the *Drosophila* gene 'mothers against decapentaplegic' (Mad) and the *C. elegans* gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein functions as a transcriptional modulator activated by transforming growth factor-beta and is thought to play a role in the regulation of carcinogenesis.

Model	STJ114841
Host	Rabbit
Reactivity	Human
Applications	WB
Immunogen	A phospho specific peptide corresponding to residues surrounding T179 of human SMAD3
Gene ID	4088
Gene Symbol	SMAD3
Dilution range	WB 1:500 - 1:2000
Purification	Affinity purification
Note	For Research Use Only (RUO).
Protein Name	Mothers against decapentaplegic homolog 3 MAD homolog 3 Mad3 Mothers against DPP homolog 3 hMAD-3 JV15-2 SMAD family member 3 SMAD 3 Smad3 hSMAD3
Molecular Weight	48.081 kDa

Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage Instruction	Store at -20C. Avoid freeze / thaw cycles.
Database Links	HGNC:6769 OMIM:114500 Reactome:R-HSA-1181150
Alternative Names	Mothers against decapentaplegic homolog 3 MAD homolog 3 Mad3 Mothers against DPP homolog 3 hMAD-3 JV15-2 SMAD family member 3 SMAD 3 Smad3 hSMAD3
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 SMAD3/SMAD4 complex, activates transcription, Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP-1/SMAD site to regulate TGF-beta-mediated transcription, Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes, This effect on wound healing appears to be hormone-sensitive, Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures, Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator,
Cellular Localization	Cytoplasm,
Post-translational Modifications	Phosphorylated on serine and threonine residues, Enhanced phosphorylation in the linker region on Thr-179, Ser-204 and Ser-208 on EGF and TGF-beta treatment, Ser-208 is the main site of MAPK-mediated phosphorylation, CDK-mediated phosphorylation occurs in a cell-cycle dependent manner and inhibits both the transcriptional activity and antiproliferative functions of SMAD3, This phosphorylation is inhibited by flavopiridol, Maximum phosphorylation at the G(1)/S junction, Also phosphorylated on serine residues in the C-terminal SXS motif by TGFBR1 and ACVR1, TGFBR1-mediated phosphorylation at these C-terminal sites is required for interaction with SMAD4, nuclear location and transactivational activity, and appears to be a prerequisite for the TGF-beta mediated phosphorylation in the linker region, Dephosphorylated in the C-terminal SXS motif by PPM1A, This dephosphorylation disrupts the interaction with SMAD4, promotes nuclear export and terminates TGF-beta-mediated signaling, Phosphorylation at Ser-418 by CSNK1G2/CK1 promotes ligand-dependent ubiquitination and subsequent proteasome degradation, thus inhibiting SMAD3-mediated TGF-beta responses, Phosphorylated by PDPK1,