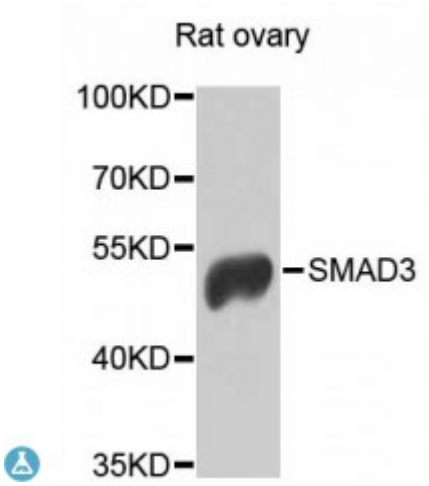
Anti-SMAD3 Antibody



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	STJ113806
Host	Rabbit
Reactivity	Rat
Applications	WB
Immunogen	A synthetic peptide corresponding to a sequence within amino acids 150-250 of human SMAD3 (NP_005893.1).
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:6769OMIM:114500Reactome: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,