SunLong Biotech Co.,LTD
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[Marker Primary Antibody]

Rabbit Anti-Phospho-SMAD7 (Ser249) /AF594 Conjugated antibody

Catalog Number: SL20024R-AF594

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-Phospho-SMAD7 (Ser249) /AF594
Immunogen:	KLH conjugated synthetic peptide derived from human Phospho-SMAD7(Ser249)
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IF=1:100-500 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat(predicted:Pig,Cow,GuineaPig)
Background:	background: MADH7 is a member of the MAD related family of molecules. MAD related proteins are a recently identified family of intracellular proteins that are thought to be essential components in the signaling pathways of the serine/threonine kinase receptors of the transforming growth factor beta super family. **Function:** Antagonist of signaling by TGF-beta (transforming growth factor) type 1 receptor superfamily members; has been shown to inhibit TGF-beta (Transforming growth factor) and activin signaling by associating with their receptors thus preventing SMAD2 access. Functions as an adapter to recruit SMURF2 to the TGF-beta receptor complex. Also acts by recruiting the PPP1R15A-PP1 complex to TGFBR1, which promotes its dephosphorylation. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. **Subunit:** Interacts with WWP1. Interacts with COPS5. Interacts with

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	NEDD4L. Interacts with STAMBP. Interacts with RNF111, AXIN1 and AXIN2. Interacts with PPP1R15A. Interacts (via MH2 domain) with EP300. Interacts with ACVR1B, SMURF1, SMURF2 and TGFBR1; SMAD7 recruits SMURF1 and SMURF2 to the TGF-beta receptor and regulates its degradation. Interacts with PDPK1 (via PH domain). **Subcellular Location:** Nucleus. Cytoplasm. Note=Interaction with NEDD4L or RNF111 or induces translocation from the nucleus to the cytoplasm. TGF-beta stimulates its translocation from the nucleus to the cytoplasm. PDPK1 inhibits its translocation from the nucleus to the cytoplasm in response to TGF-beta. **Tissue Specificity:** Ubiquitous with higher expression in the lung and vascular endothelium. **Post-translational modifications:** Phosphorylation on Ser-249 does not affect its stability, nuclear localization or inhibitory function in TGFB signaling; however it affects its ability to regulate transcription. Phosphorylated by PDPK1. Ubiquitinated by WWP1 (By similarity). Polyubiquitinated by RNF111, which is enhanced by AXIN1 and promotes proteasomal degradation. In response to TGF-beta, ubiquitinated by SMURF1; which promotes its degradation. Acetylation prevents ubiquitination and degradation mediated by SMURF1. DISEASE: Genetic variations in SMAD7 influence susceptibility to colorectal cancer type 3 (CRCS3) [MIM:612229]. Colorectal cancer consists of tumors or cancer of either the colon or rectum or both. Cancers of the large intestine are the second most common form of cancer found in males and females. Symptoms include rectal bleeding, occult blood in stools, bowel obstruction and weight loss. Treatment is based largely on the extent of cancer penetration into the intestinal wall. Surgical cures are possible if the malignancy is confined to the intestine. Risk can be reduced when following a diet which is low in fat and high in fiber. **Similarity:** Belongs to the dwarfin/SMAD family. Contains 1 MH1 (MAD homology 1) domain. Contains 1 MH2 (MAD homology 2) domain. **Database links:** **Entrez Gene:** 4092 Human **Entrez Gene:** 17131 Mouse **Entrez Gene:** 81516 Rat Omim: 602932 Human **SwissProt:** O15105 Human **SwissProt:** O35253 Mouse **SwissProt:** O88406 Rat

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	Unigene: 465087 Human Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. transcriptional regulatory factor（Transcriptin Regulators） Smad7is transforming growth factor(TGF-β)an inhibitory molecule of the signaling pathway，Smad7can interfere with the MAPK signaling pathway,disrupting the balance of ERK and JNK phosphorylation activity,resulting in pro-proliferative effects stronger than growth-inhibitory effects, thereby contributing to the development of cells toward malignancy。