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SMAD3 Antibody (S213)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP11730a

Specification

SMAD3 Antibody (S213) - Product Information

Application	**WB, IF, FC, IHC-P,E**
Primary Accession	P84022
Other Accession	P84025, P84024, Q8BUN5, P84023, NP_001138575.1, NP_005893.1
Reactivity	**Human**
Predicted	**Chicken, Mouse, Pig, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**48081**
Antigen Region	**191-220**

SMAD3 Antibody (S213) - Additional Information

Gene ID 4088

Other 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, SMAD3, MADH3

Target/Specificity
This SMAD3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 191-220 amino acids from human SMAD3.

Dilution
WB~~1:1000
IF~~1:10~50
FC~~1:10~50
IHC-P~~1:10~50
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
SMAD3 Antibody (S213) is for research use only and not for use in diagnostic or therapeutic procedures.

SMAD3 Antibody (S213) - Protein Information

Name SMAD3

Synonyms MADH3

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.

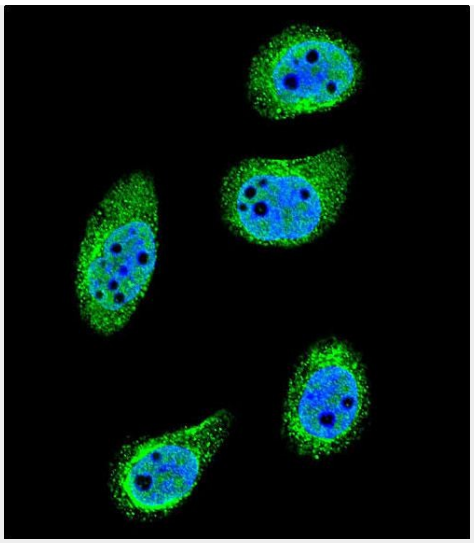
Cellular Location
Cytoplasm. Nucleus. Note=Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 (PubMed:15799969, PubMed:21145499). Through the action of the phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Co-localizes with LEMD3 at the nucleus inner membrane (PubMed:15601644). MAPK-mediated phosphorylation appears to have no effect on nuclear import (PubMed:19218245). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236). Localized mainly to the nucleus in the early stages of embryo development with expression becoming evident in the cytoplasm of the inner cell mass at the blastocyst stage (By similarity) {ECO:0000250|UniProtKB:Q8BUN5, ECO:0000269|PubMed:15601644, ECO:0000269|PubMed:15799969, ECO:0000269|PubMed:16751101, ECO:0000269|PubMed:17327236, ECO:0000269|PubMed:19218245, ECO:0000269|PubMed:19289081, ECO:0000269|PubMed:21145499}

SMAD3 Antibody (S213) - Protocols

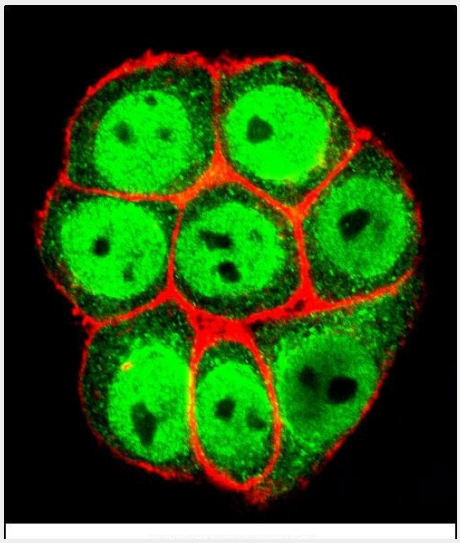
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

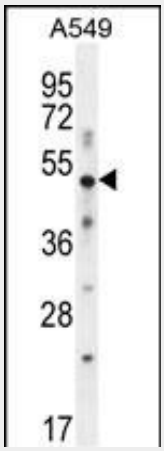
SMAD3 Antibody (S213) - Images



Confocal immunofluorescent analysis of SMAD3 Antibody (S213)(Cat#AP11730a) with A549 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). DAPI was used to stain the cell nuclear (blue).



Confocal immunofluorescent analysis of SMAD3 Antibody (S213)(Cat#AP11730a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).



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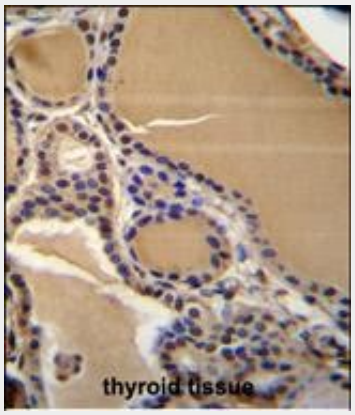
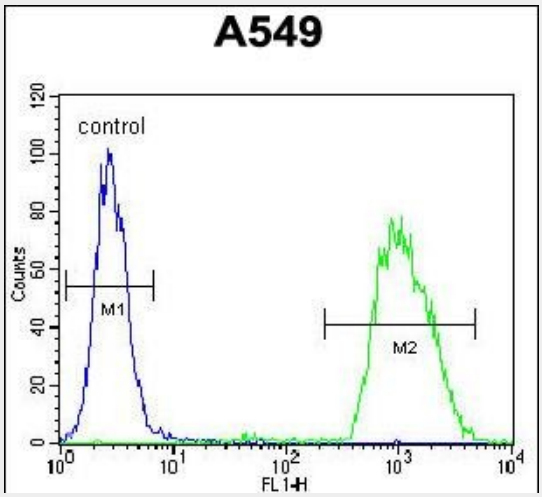
SMAD3 Antibody (S213) (Cat. #AP11730a) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the SMAD3 antibody detected the SMAD3 protein (arrow).



SMAD3 Antibody (S213) (Cat. #AP11730a)immunohistochemistry analysis in formalin fixed and paraffin embedded human thyroid tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of SMAD3 Antibody (S213) for immunohistochemistry. Clinical relevance has not been evaluated.



SMAD3 Antibody (S213) (Cat. #AP11730a) flow cytometric analysis of A549 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

SMAD3 Antibody (S213) - Background

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.

SMAD3 Antibody (S213) - References

Ge, Q., et al. J. Cell. Physiol. 225(3):846-854(2010)
Lee, J., et al. J. Biol. Chem. 285(34):26618-26627(2010)
Roder, C., et al. Childs Nerv Syst (2010) In press :

Valdes, A.M., et al. Arthritis Rheum. 62(8):2347-2352(2010)
Jugessur, A., et al. PLoS ONE 5 (7), E11493 (2010) :