

SMAD1 monoclonal antibody

Catalog: MB67111

Host: Mouse

Reactivity: Human

Background:

Bone morphogenetic proteins (BMPs) constitute a large family of signaling molecules that regulate a wide range of critical processes including morphogenesis, cell-fate determination, proliferation, differentiation, and apoptosis. BMP receptors are members of the TGF- β family of Ser/Thr kinase receptors. Ligand binding induces multimerization, autophosphorylation, and activation of these receptors. They subsequently phosphorylate Smad1 at Ser463 and Ser465 in the carboxy-terminal motif SSXS, as well as Smad5 and Smad9 (Smad8) at their corresponding sites. These phosphorylated Smads dimerize with the coactivating Smad4 and translocate to the nucleus, where they stimulate transcription of target genes. MAP kinases and CDKs 8 and 9 phosphorylate residues in the linker region of Smad1, including Ser206. The phosphorylation of Ser206 recruits Smurf1 to the linker region and leads to the degradation of Smad1. Phosphorylation of this site also promotes Smad1 transcriptional action by recruiting YAP to the linker region.

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 60 kDa

Swiss-Prot:

Q15797

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/200), IF/ICC (1/10 - 1/50)

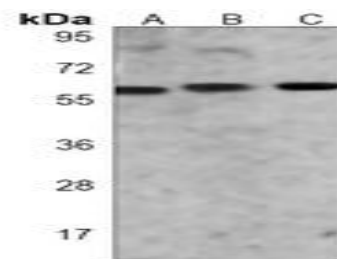
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

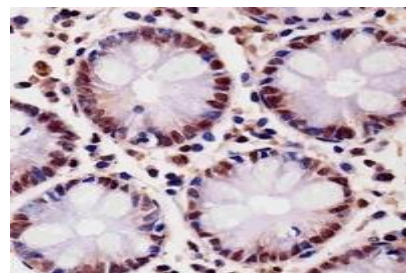
Specificity:

Recognizes endogenous levels of SMAD1 protein.

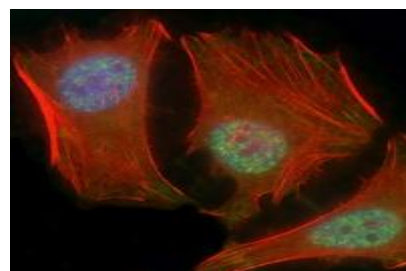
DATA:



Western blot analysis of SMAD1 expression in HT1080 (A), HeLa (B), 293 (C) whole cell lysates.



Immunohistochemical analysis of SMAD1 staining in human colon formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of SMAD1 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3%

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PRODUCT DATA SHEET

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BSA-PBS and incubated overnight at 4 °C in a humidified chamber.
Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark.
Phalloidin - AF555 was used to stain the cytoplasm (red). DAPI was used to stain the cell nuclei (blue).

Note:

For research use only, not for use in diagnostic procedure.

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