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[KO Validated] SMAD2/SMAD3 Rabbit mAb

Catalog No.: A28421 KO Validated Recombinant

Basic Information

Observed MW
52 kDa/60 kDa

Calculated MW
25-52 kDa

Category
Primary antibody

Applications
WB,IP,ChIP,ELISA

Cross-Reactivity
Human, Mouse, Rat

CloneNo number
ARC77767

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 mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation of this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. This protein can also be phosphorylated by activin type 1 receptor kinase, and mediates the signal from the activin. Alternatively spliced transcript variants have been observed for this gene. The SMAD family of proteins are a group of intracellular signal transducer proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. The SMAD3 protein functions in the transforming growth factor-beta signaling pathway, and transmits signals from the cell surface to the nucleus, regulating gene activity and cell proliferation. This protein forms a complex with other SMAD proteins and binds DNA, functioning both as a transcription factor and tumor suppressor. Mutations in this gene are associated with aneurysms-osteoarthritis syndrome and Loeys-Dietz Syndrome 3.

Recommended Dilutions

WB	1:6000 - 1:15000
IP	0.5μg-4μg antibody for 200μg-400μg extracts of whole cells
ChIP	2μg antibody for 10μg-15μg of Chromatin
ELISA	Recommended starting concentration is 1 μg/mL. Please optimize the concentration based on your specific assay requirements.For high-ratio antibody dilutions (≥1:10000)，a sequential dilution method is strongly recommended to ensure measurement accuracy.

Immunogen Information

Gene ID
4087/4088

Swiss Prot
Q15796/P84022

Immunogen
Synthetic peptide. This information is considered to be commercially sensitive.

Synonyms
CHTD8; JV18; JV18-1; LDS6; MADH2; MADR2; hMAD-2; hSMAD2; HSPC193; HsT17436; JV15-2; LDS1C; LDS3; MADH3; hMAD-3; hSMAD3; mad3

Product Information

Source
Rabbit

Isotype
IgG

Purification
Affinity purification

Storage
Store at -20℃. Avoid freeze / thaw cycles.
Buffer: PBS with 0.09% Sodium azide,0.05% BSA,50% glycerol,pH7.3.

Contact

400-999-6126

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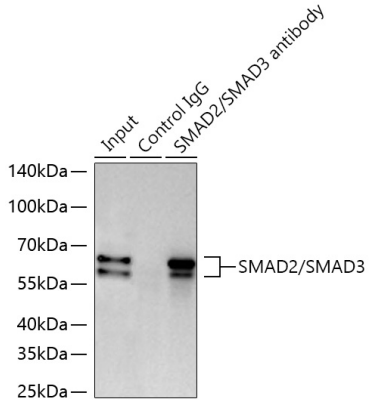
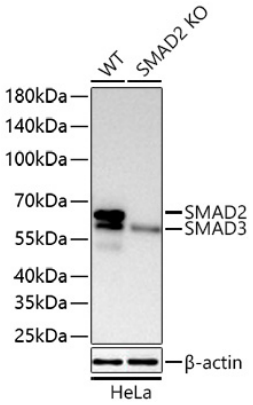
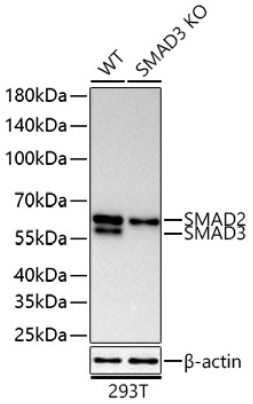
Validation Data



Immunoprecipitation of SMAD2/SMAD3 from 300 µg extracts of NIH/3T3 cells was performed using 0.5 µg of [KO Validated] SMAD2/SMAD3 Rabbit mAb (A28421). Rabbit Control IgG (AC005) was used to precipitate the Control IgG sample. IP samples were eluted with 1x Laemmli Buffer. The Input lane represents 10% of the total input. Western blot analysis of immunoprecipitates was conducted using [KO Validated] SMAD2/SMAD3 Rabbit mAb (A28421) at a dilution of 1:6000.

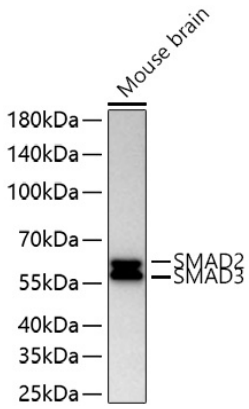


Western blot analysis of lysates from wild type (WT) and SMAD2/SMAD3 knockout (KO) HeLa cells using [KO Validated] SMAD2/SMAD3 Rabbit mAb (A28421) at 1:15000 dilution incubated overnight at 4℃.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25 µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 45 s.

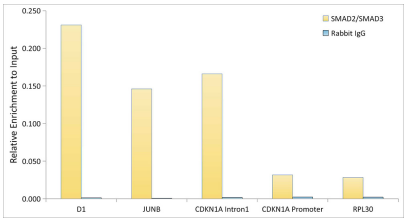


Western blot analysis of lysates from wild type (WT) and SMAD2/SMAD3 knockout (KO) 293T cells using [KO Validated] SMAD2/SMAD3 Rabbit mAb (A28421) at 1:15000 dilution incubated overnight at 4℃.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25 µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 45 s.

Validation Data



Western blot analysis of lysates from Mouse brain using [KO Validated] SMAD2/SMAD3 Rabbit mAb (A28421) at 1:15000 dilution incubated overnight at 4℃.
Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution.
Lysates/proteins: 25 µg per lane.
Blocking buffer: 3% nonfat dry milk in TBST.
Detection: ECL Basic Kit (RM00020).
Exposure time: 45 s.



Chromatin immunoprecipitation was performed with 15 µg of cross-linked chromatin from A549 cells treated with TGF-β1 (20 ng/mL,30 min) , using 2 µg of [KO Validated] SMAD2/SMAD3 Rabbit mAb (A28421) and Rabbit IgG isotype control (AC042). The enrichment of immunoprecipitated DNA at different genomic loci was examined by quantitative PCR. The histogram compares the ratio of the immunoprecipitated DNA to the input at given loci.