abcam

ab216428

Anti-MADH7/SMAD7 antibody

Anti-MADH7/SMAD7 antibody (ab216428) is a rabbit polyclonal antibody detecting MADH7/SMAD7 in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Over 50 publications

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Proclin 300 Constituents: 50% Glycerol (glycerin, glycerine), 48.98% TBS, 1X, 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human SMAD7 aa 1-50 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link O15105
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/100 - 1/1000
Notes	-

Species	Rat
Dilution info	1/100 - 1/1000
Notes	-

Species	Human
Dilution info	1/100 - 1/1000
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/500
Notes	-

Species	Rat
Dilution info	1/100 - 1/500
Notes	-

Expected

Species	Human

Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information SMAD7

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 (PubMed:21791611). 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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-MADH7/SMAD7 antibody (ab216428) is a rabbit polyclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of MADH7/SMAD7?
Anti-MADH7/SMAD7 (ab216428) specifically detects a band for MADH7/SMAD7 (UniProt: O15105) at a molecular weight of 46kDa.

Trusted by the scientific community
Anti-MADH7/SMAD7 (ab216428) was first used in a scientific publication in 2016 and has been cited over 50 times in peer-reviewed journals.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MADH7 also known as SMAD7 is an intracellular protein that acts as an inhibitor in the signaling pathway of the TGF-beta (transforming growth factor-beta) family. This protein has a molecular mass of approximately 46 kDa and is widely expressed with a significant presence in tissues involved in immune response and development. SMAD7 directly interacts with receptor-regulated SMADs (R-SMADs) preventing their phosphorylation and consequent nuclear translocation effectively halting further signal transduction.
Biological function summary	SMAD7 functions to regulate the TGF-beta signaling pathway by operating as a negative feedback mediator. It binds to TGF-beta receptors recruiting E3 ubiquitin ligases which promote receptor degradation. SMAD7 is not part of complex large-scale multi-protein assemblies but is essential in modulating the pathway's activity. Its balance controls important processes like cell proliferation differentiation and apoptosis across varied biological contexts.
Pathways	SMAD7 strongly influences the TGF-beta and BMP (bone morphogenetic protein) signaling pathways. SMAD7 blocks TGF-beta signaling by interfering with the activity of R-SMADs such as SMAD2 and SMAD3 and it modulates the BMP pathway by interacting with SMAD1 and SMAD5. Its regulatory roles are tightly integrated within these pathways highlighting its importance in cellular homeostasis and response to extracellular signals.
Associated diseases and disorders	SMAD7 has links to inflammatory conditions and cancer. Its dysregulation can lead to heightened TGF-beta signaling which may contribute to conditions like fibrosis and can enhance tumor progression by affecting cancer cell dynamics and the

tumor microenvironment. In these scenarios abnormal SMAD7 function can associate with proteins such as SMAD3 in fibrosis while in cancer its association with proteins like SMAD4 disrupts normal growth control and cellular response.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

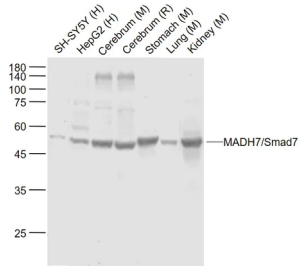
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

6 product images



Western blot - Anti-MADH7/SMAD7 antibody (ab216428)

All lanes:
Western blot - Anti-MADH7/SMAD7 antibody (ab216428) at 1/200 dilution

Lane 1:
SHSY5Y human cells

Lane 2:
HepG2 cells

Lane 3:
Mouse cerebrum

Lane 4:
Rat cerebrum

Lane 5:
Mouse stomach

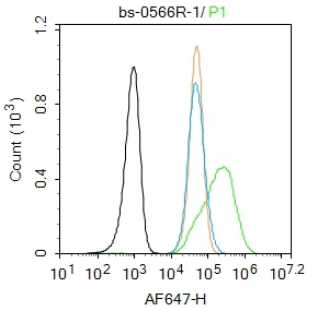
Lane 6:
Mouse lung

Lane 7:
Mouse kidney

Secondary

All lanes:
Conjugated Secondary at 1/200 dilution

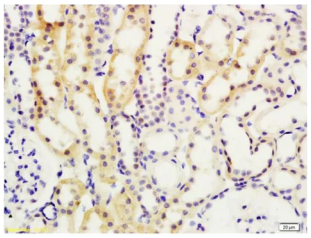
Predicted band size: 46 kDa



Flow Cytometry - Anti-MADH7/SMAD7 antibody (ab216428)

MADH7/SMAD7 Flow Cytometry staining using rabbit Anti-MADH7/SMAD7 antibody

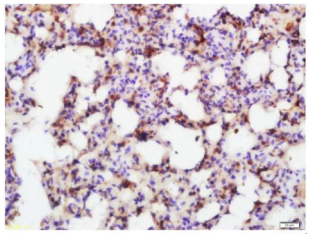
Flow cytometry analysis of SH-SY5Y cells labelled for MADH7/ SMAD7 using ab216428 at 1/200 dilution. Acquisition of 20,000 events were performed. Cells stained with primary antibody (green), isotype control (orange).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MADH7/SMAD7 antibody (ab216428)

MADH7/SMAD7 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MADH7/SMAD7 antibody

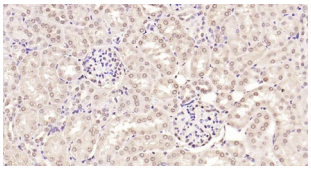
Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat kidney tissue labeling MADH7/SMAD7 with ab216428 at 1/200 dilution followed by conjugation to the secondary antibody and DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MADH7/SMAD7 antibody (ab216428)

MADH7/SMAD7 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MADH7/SMAD7 antibody

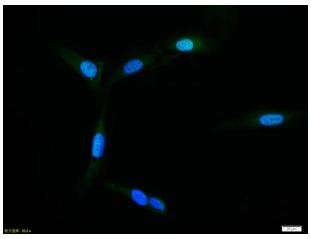
Immunohistochemical analysis of formalin-fixed, paraffin-embedded rat lung tissue labeling MADH7/SMAD7 with ab216428 at 1/600 dilution followed by conjugation to the secondary antibody for 20 minutes and DAB staining. Prior to addition of the primary antibody, antigen retrieval was carried out by boiling in sodium citrate buffer (pH6.0) for 15min. Endogenous peroxidase was blocked by 3% hydrogen peroxide for 20 minutes and blocking buffer (normal goat serum) added at 37°C for 30min.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MADH7/SMAD7 antibody (ab216428)

MADH7/SMAD7 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MADH7/SMAD7 antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded mouse kidney tissue labeling MADH7/SMAD7 with ab216428 at 1/200 dilution followed by conjugation to the secondary antibody and DAB staining.



Immunocytochemistry/ Immunofluorescence - Anti-MADH7/SMAD7 antibody (ab216428)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.