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Anti-MADH7/SMAD7 Antibody Picoband®

Catalog Number: A00784-1

About SMAD7

Mothers against decapentaplegic homolog 7 or SMAD7 is a protein that in humans is encoded by the SMAD7 gene. The protein encoded by this gene is a nuclear protein that binds the E3 ubiquitin ligase SMURF2. Upon binding, this complex translocates to the cytoplasm, where it interacts with TGF-beta receptor type-1 (TGFBR1), leading to the degradation of both the encoded protein and TGFBR1. Expression of this gene is induced by TGFBR1. Variations in this gene are a cause of susceptibility to colorectal cancer type 3 (CRCS3). Several transcript variants encoding different isoforms have been found for this gene.

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Overview

Product Name	Anti-MADH7/SMAD7 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-MADH7/SMAD7 Antibody Picoband® catalog # A00784-1. Tested in ELISA, WB applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	O15105

Technical Details

Immunogen	E.coli-derived human MADH7/SMAD7 recombinant protein (Position: R353-Q388).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

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	blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human ELISA, 0.1-0.5ug/ml, -

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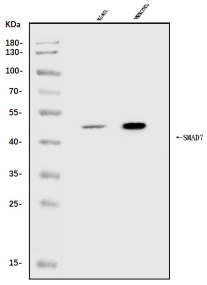
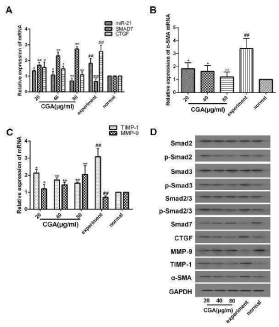
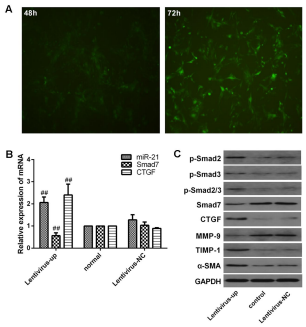
Anti-MADH7/SMAD7 Antibody Picoband® (A00784-1) Images



Western blot analysis of MADH7/SMAD7 using anti-MADH7/SMAD7 antibody (A00784-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions. Lane 1: human K562 whole cell lysates, Lane 2: human HEK293 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MADH7/SMAD7 antigen affinity purified polyclonal antibody (Catalog # A00784-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MADH7/SMAD7 at approximately 50KD. The expected band size for MADH7/SMAD7 is at 50KD.



Effects of CGA on the TGF-beta1/miR-21/Smad7 signaling pathway in LX2 cells after TGF-beta1 stimulation. (A–C) The mRNA levels were detected by real-time quantitative PCR. (D) The protein levels were assayed by western blotting. The data from three independent experiments are expressed as the means ± SD. ∗ P < 0.05 compared with the experimental group; ∗∗ P < 0.01 compared with experimental group; ## P < 0.01 compared with the normal group.Index in PubMed under a CC BY license. PMID: 29311932



Verification of downstream signaling molecules in LX2 cells after miR-21 overexpression. (A) LX2 cells were transfected with lentivirus, and the expression of GFP was observed with a fluorescence microscope after 48 and 72 h. (B) The expression of miR-21, Smad7 and CTGF were measured by quantitative real-time PCR. (C) The protein expression was detected by western blotting. Data are shown means ± SD and significant differences were determined by one-way ANOVA. ## P < 0.01 for lentivirus-up group vs. normal group.Index in PubMed under a CC BY license. PMID: 29311932

Effects of CGA on the TGF-beta1/miR-21/Smad7 signaling pathway in LX2 cells after TGF-beta1 overexpression. (A–C) The mRNA levels were detected by real-time quantitative PCR. (D) The protein levels were assayed by western blotting. The data from three independent experiments are expressed as the means ± SD. ∗ P < 0.05 for lentivirus-up/TGF-beta1/CGA vs. lentivirus-up/TGF-beta1; ∗∗ P < 0.01

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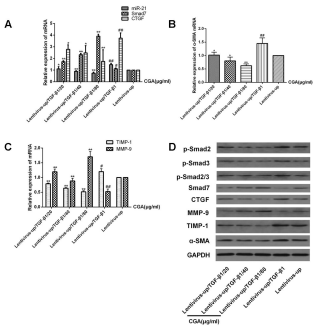
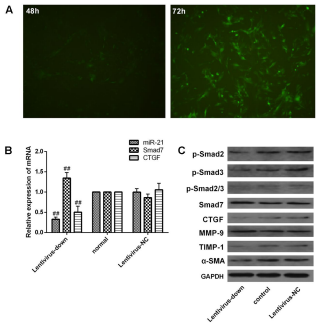
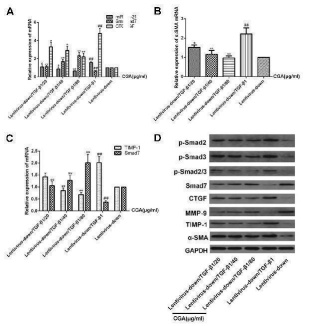


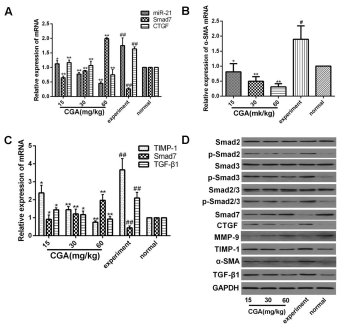
for lentivirus-up/TGF-beta1/CGA vs. lentivirus-up/TGF-beta1; # P < 0.05 compared with the normal group; ## P < 0.01 compared with the normal group.Index in PubMed under a CC BY license. PMID: 29311932



Verification of downstream signaling molecules in LX2 cells after miR-21 knockdown. (A) LX2 cells were transfected with lentivirus, and the expression of GFP was observed with a fluorescence microscope after 48 and 72 h. (B) The expression of miR-21, Smad7 and CTGF was measured by quantitative real-time PCR. (C) The protein expression was detected by western blotting. Data are shown as the means ± SD, and significant differences were determined by one-way ANOVA. ## P < 0.01 for lentivirus-down group vs. normal group.Index in PubMed under a CC BY license. PMID: 29311932



Effects of CGA on the TGF-beta1/miR-21/Smad7 signaling pathway in LX2 cells after TGF-beta1 knockdown. (A–C) The mRNA levels were detected by real-time quantitative PCR. (D) The protein levels were assayed by western blotting. The data from three independent experiments are expressed as the means ± SD. ∗ P < 0.05 for lentivirus-down/TGF-beta1/CGA vs. lentivirus-down/TGF-beta1; ∗∗ P < 0.01 for lentivirus-down/TGF-beta1/CGA vs. lentivirus-down/TGF-beta1; ## P < 0.01 lentivirus-down/TGF-beta1 vs. lentivirus-down.Index in PubMed under a CC BY license. PMID: 29311932



Effect of CGA on the TGF-beta1/miR-21/Smad7 signaling pathway in CCl4-induced rats. (A–C) The mRNA levels were measured by real-time quantitative PCR. (D) The protein levels were assayed by western blotting. The data from three independent experiments are expressed as the means ± SD. ∗ P < 0.05 compared with the experimental group; ∗∗ P < 0.01 compared with experimental group; # P < 0.05 compared with the normal group; ## P < 0.01 compared with the normal group.Index in PubMed under a CC BY license. PMID: 29311932

The illustration of CGA protecting against liver fibrosis in vitro and in vivo by regulating miR-21-regulated TGF-beta1/Smad7 signaling pathway.Index in PubMed under a CC BY license. PMID: 29311932

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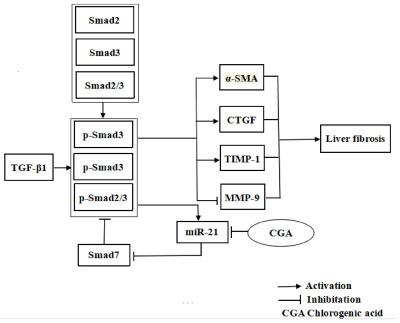

2 Publications Citing This Product

1. PubMed ID: 10.1371/journal.pone.0153409, Hydroxysafflor Yellow A Ameliorates Renal Fibrosis by Suppressing TGF-beta1-Induced Epithelial-to-Mesenchymal Transition

2. PubMed ID: 10.1016/j.jep.2019.112404, Astragaloside IV inhibits cardiac fibrosis via miR-135a-TRPM7-TGF-beta/Smads pathway

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Anti-MADH7/SMAD7 Antibody

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