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antibody and ELISA experts

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Anti-Actin ACTA1 Antibody (Monoclonal, AC-40)

Catalog Number: MA1000

About ACTA1

Actin, a highly conserved protein, is a major component of both the cytoskeletal and contractile structures in the cell types. It varies in amount, being related to the type of differentiation and to the functional state of cells and tissues. The actins exhibit over 90% sequence homology, but each isoform has a unique NH2-terminal sequence. The isoforms are comprised of three alpha-actin, one beta-actin, two gamma-actin. Because the amino acid sequence of the C-terminal is the same for almost all actins, this antibody has been raised using a synthetic peptide corresponding to the C-terminal 11 residues.

Overview

Product Name	Anti-Actin ACTA1 Antibody (Monoclonal, AC-40)
Reactive Species	Chicken, Human, Mouse, Rat
Description	Boster Bio Anti-Actin ACTA1 Antibody (Monoclonal, AC-40) catalog # MA1000. Tested in IHC, WB applications. This antibody reacts with Chicken, Human, Mouse, Rat.
Application	IHC, WB
Clonality	Monoclonal AC-40
Formulation	Mouse IgG in stabilizing components, 1.2% sodium acetate and 0.01mg NaN3.
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	Mouse
Uniprot ID	P68133

Technical Details

Immunogen	Synthetic actin C-terminal peptideSer-Gly-Pro-Ser-Ile-Val-His-Arg-Lys-Cys-Phe,attached to a Multiple Antigen Peptide (MAP) backbone.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot, and HRP Conjugated anti-Mouse IgG Super Vision Assay Kit (SV0001-1) for IHC(F).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Mouse IgG2a
Form	Lyophilized
Concentration	Adding 1 ml of PBS buffer will yield a concentration of 100 ug/ml.
Purification	Ascites

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Suggested Dilutions	Immunohistochemistry (Frozen Section), 4ug/ml, Human, chicken, mouse, rat, - Western blot, 2ug/ml, Human, chicken, mouse, rat

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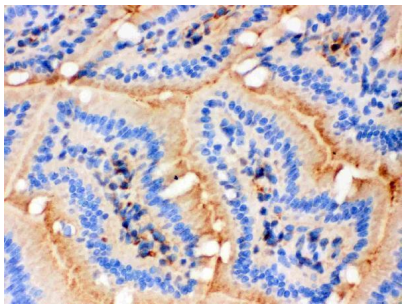
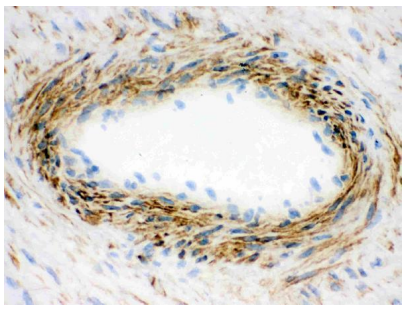
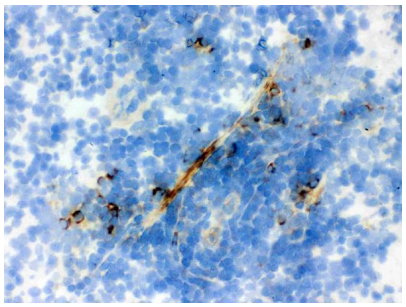
Anti-Actin ACTA1 Antibody (Monoclonal, AC-40) (MA1000) Images



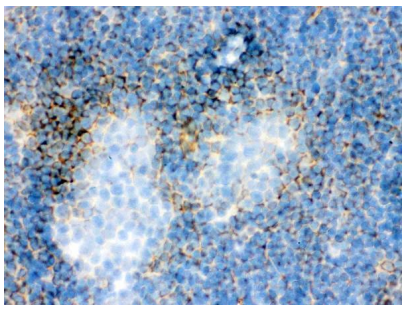
Anti-Actin antibody, MA1000, IHC(F)IHC(F): Mouse Intestine Tissue



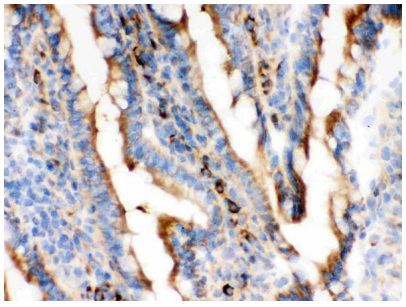
Anti-Actin antibody, MA1000, IHC(F)IHC(F): Human Placenta Tissue



Anti-Actin antibody, MA1000, IHC(F)IHC(F): Rat Spleen Tissue



Anti-Actin antibody, MA1000, IHC(F)IHC(F): Mouse Spleen Tissue



Anti-Actin antibody, MA1000, IHC(F)IHC(F): Rat Intestine Tissue

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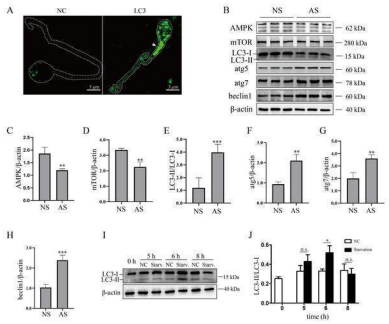
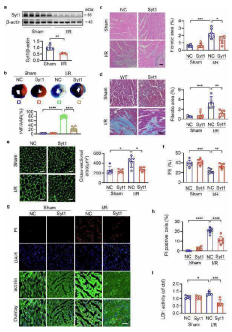
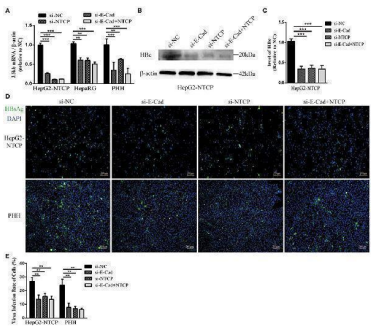


Autophagy is activated in asthenozoospermia. (A) Left Panel: negative control. Right Panel: immunofluorescence staining for LC3. The arrowhead indicates the location of LC3-positive area in the sperm. Scale bar, 3 um; (B) Western blot analysis of AMPK, mTOR, LC3, atg5, atg7, beclin1 and beta-actin protein levels in NS (normal saline) and AS (arsenite) treated groups. Molecular weights are indicated on the right. (C) Quantitative analysis of AMPK/beta-actin ratio present in (B), three independent tests were performed. (D) Quantitative analysis of mTOR/beta-actin ratio present in (B), three independent tests were performed. (E) Quantitative analysis of LC3-II/LC3-I ratio present in (B), three independent tests were performed. (F) Quantitative analysis of atg5/beta-actin ratio present in (B), three independent tests were performed. (G) Quantitative analysis of atg7/beta-actin ratio present in (B), three independent tests were performed. (H) Quantitative analysis of beclin1/beta-actin ratio present in (B), three independent tests were performed. (I) Sperm derived from normal contributors are treated with starvation for 0, 5, 6 and 8 h. Level of LC3-I and LC3-II are shown. (J) Quantitative analysis of LC3-II/LC3-I ratio present in (I), three independent tests were performed. NS, normal sperm; AS, asthenozoospermia. n.s. non-significant, * P < 0.05, ** P < 0.005, *** P < 0.0005. Download full-size image DOI:Index in PubMed under a CC BY license. PMID: 39959826



Syt1 protects hearts against cardiomyocyte necrosis and ischemia/reperfusion (I/R) injury. a Mice hearts were subjected to I/R or sham surgery. Then the protein level of Syt1 in the LV was detected by western blotting. ** P



Downregulation of E-cadherin inhibits infection of HBV particles from the serum of an HBV carrier. HepG2-NTCP, HepaRG and PHH cells were incubated with the HBV-positive serum diluted in DMEM at an MOI of 100 after 3 days post-transfection with si-NC, si-E-cadherin, si-NTCP, or si-E-cadherin and si-NTCP together. (A) Total RNA was extracted 4 days post-infection and HBV infection was assessed via qRT-PCR quantification of HBV 3.5 kb mRNA normalized to beta-actin mRNA. The value of si-NC group was also normalized to 1. (B) Total protein was extracted 4 days post-infection and HBV core (HBc) expression was assessed by western blot analysis in HepG2-NTCP cells. (C) The densitometric ratios were normalized to the beta-actin and then compared to the controls. (D) HBsAg expression was assessed by immunofluorescence 4 days post-infection in Hep2-NTCP and PHH cells. (E) The virus infection rate of the cells is the percentage of cells expressing green fluorescence calculated by the ImageJ-win 64. Representative data is shown from triplicate experiments. ** p < 0.01; *** p < 0.001; error bars: standard deviation

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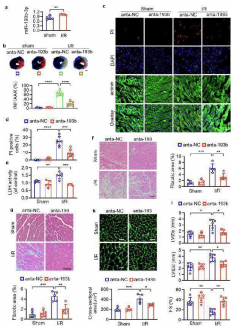
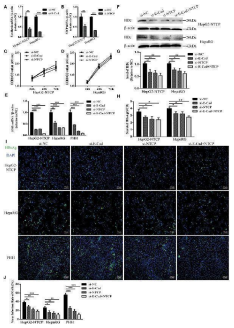
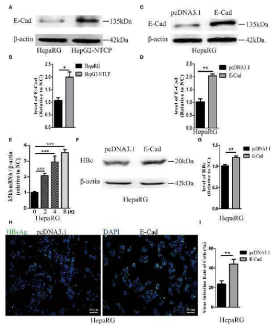


miR-193b-3p regulated cardiomyocyte necrosis and I/R injury. a Detection of miR-193b-3p levels in hearts subjected to I/R or sham surgery by qRT-PCR. ** P



Downregulation of E-cadherin reduces infection efficacy of HBV particles enriched from supernatants of HepAD38 cells. (A) E-cadherin expression was silenced in HepG2-NTCP and HepaRG cells by siRNAs. (B) NTCP expression was silenced in HepG2-NTCP and HepaRG cells by siRNAs. Silencing efficacy was assessed for E-cadherin and NTCP by qRT-PCR 2 days post-transfection. The value of si-NC group was normalized to 1. (C,D) CCK8 assay showed proliferation of HepG2-NTCP and HepaRG cells transfected with si-NC, si-E-cadherin, and si-NTCP. There was no significant difference between the groups. (E) Total RNA was extracted 2 days post-infection and HBV infection was assessed by qRT-PCR quantification of HBV 3.5 kb mRNA normalized to beta-actin mRNA. The value of si-NC group was also normalized to 1. (F) Total protein was extracted 3 days post-infection and expression of HBV core (HBc) was assessed by western blot analysis in HepG2-NTCP and HepaRG cells. (G) The densitometric ratios were normalized to the beta-actin and then compared to the controls. (H) HBsAg in culture collected from the infected cells at 4 days was detected with ELISA kits in HepG2-NTCP and HepaRG cells. The value of S/CO is the ratio of OD to the value of cut off. (I) HBsAg expression was assessed by immunofluorescence 3 days post-infection in HepG2-NTCP, HepaRG and PHH cells treated with si-NC, si-E-cadherin, si-NTCP or si-E-cadherin and si-NTCP together. (J) The virus infection rate of the cells is the percentage of cells expressing green fluorescence calculated by the ImageJ-win 64. Representative data is shown from triplicate experiments. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; error bars: standard deviation (SD).Index in PubMed under a CC BY license. PMID: 32175289



Overexpression of E-cadherin promotes HBV particles infection in HepaRG cells. (A) E-cadherin expression was assessed via western blot analysis in HepaRG and HepG2-NTCP cells. (B) The densitometric ratios were normalized to the beta-actin and then compared to the controls. (C) Four microgram of pcDNA3.1-E-cadherin was transfected into HepaRG cells planted in 6-well plate. E-cadherin expression was assessed via western blot analysis 3 days post-transfection. (D) The densitometric ratios were normalized to the beta-actin and then compared to the controls. (E) 0, 2, 4, and 8ug of pcDNA3.1-E-cadherin was

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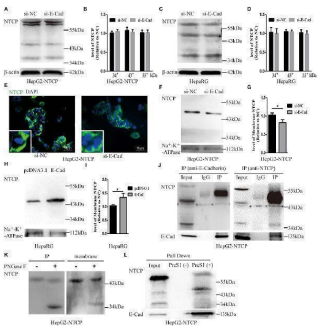
transfected into HepaRG cells planted in 6-well plate. Then the cells were planted into 24-well plate at 2 days after transfection and then infected with HBV virus. Total RNA was extracted 2 days post-infection and the amount of HBV was assessed via qRT-PCR quantification of HBV 3.5 kb mRNA normalized to beta-actin mRNA. (F–I) Four microgram of pcDNA3.1-E-cadherin was transfected into HepaRG cells planted in 6-well plate. Then the cells were planted into 24-well plate at 2 days after transfection and then infected with HBV virus. (F) Total protein was extracted 3 days post-infection and HBV core (HBc) expression was assessed by western blot analysis in HepaRG cells. (G) The densitometric ratios were normalized to the beta-actin and then compared to the controls. (H) HBsAg expression was assessed by immunofluorescence 3 days post-infection in HepaRG cells. (I) The virus infection rate of the cells is the percentage of cells expressing green fluorescence calculated by the ImageJ-win 64. Representative data is shown from triplicate experiments. E-Cad, E-cadherin. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; error bars: standard deviation (SD).Index in PubMed under a CC BY license. PMID: 32175289



E-cadherin facilitates NTCP localization to the cell surface through interacting with glycosylated NTCP. Total protein was extracted 3 days post-transfection with siRNA-NC or siRNA-E-cadherin. NTCP expression was assessed by western blot analysis in (A) HepG2-NTCP and (C) HepaRG cells. The samples were derived from the same experiment and gels were processed in parallel. (B,D) The densitometric ratios of every band were normalized to the beta-actin and then compared to the controls. There was no significant difference between the groups. (E) NTCP expression was assessed by immunofluorescence 3 days post-transfection with E-cadherin siRNA in HepG2-NTCP cells. (F) Membrane protein was extracted 3 days post-transfection with siRNA-NC (left panel) or siRNA-E-cadherin (right panel) and NTCP expression was assessed by western blot analysis in HepG2-NTCP cells. (G) The densitometric ratios were normalized to the Na + -K + -ATPase and then compared to the controls. (H) Membrane protein was extracted 4 days post-transfection with pcDNA3.1 plasmid or pcDNA3.1-E-cadherin and NTCP expression was assessed by western blot analysis in HepaRG cells. (I) The densitometric ratios were normalized to the Na + -K + -ATPase and then compared to the controls. (J) Co-immunoprecipitation was performed to confirm the interaction between E-cadherin and NTCP. Input: Total protein from cell extract. IgG of rabbit was used as the control group. IP: Total protein from Hep2-NTCP cells was incubated with anti-E-cadherin, or anti-NTCP at 4°C overnight. (K) The precipitate of IP and membrane protein were treated by PNGase F at 37°C for 1 h and detected by western blot. (L) The HepG2-NTCP cell lysates were incubated with pre-S1 to confirm that preS1 was bound to glycosylated NTCP. Representative data is shown from triplicate experiments. * $p < 0.05$; error bars: standard deviation (SD).Index in PubMed under a CC BY license. PMID: 32175289

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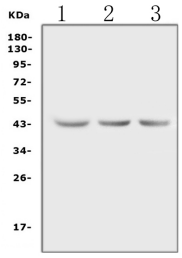

Western blot analysis of Actin using anti-Actin antibody (MA1000). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human HEK293 whole cell lysate, Lane 2: rat PC-12 whole cell lysate, Lane 3: mouse NIH3T3 cell lysate. 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 mouse anti-Actin antigen affinity purified monoclonal antibody (Catalog # MA1000) 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-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for Actin at approximately 43KD. The expected band size for Actin is at 43KD.

122 Publications Citing This Product

1. PubMed ID: 10.1016/j.imbio.2020.151933, The mTOR-glycolytic pathway promotes T-cell immunobiology in oral lichen planus

2. PubMed ID: 33607154, Liao L,Huang L,Wei X,Yin L,Wei X,Li T.Bioinformatic and biochemical studies of formononetin against liver injure.Life Sci.2021 Feb 16:119229.doi:10.1016/j.lfs.2021.119229.Epub ahead of print.PMID:33607154.

3. PubMed ID: 33607154, Liao L,Huang L,Wei X,Yin L,Wei X,Li T.Bioinformatic and biochemical studies of formononetin against liver injure.Life Sci.2021 Feb 16:119229.doi:10.1016/j.lfs.2021.119229.Epub ahead of print.PMID:33607154.

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