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Anti-SQSTM1/p62 Antibody Picoband®

Catalog Number: PB9444

About SQSTM1

SQSTM1 (Sequestosome-1), also known as Ubiquitin-Binding Protein P62 or P62, is a protein that in humans is encoded by the SQSTM1 gene. The Src homology type 2 (SH2) domain is a highly conserved motif of about 100 amino acids which mediates protein-protein interactions by binding to phosphotyrosine.p56-lck, a T-cell-specific src family tyrosine kinase with an SH2 domain, is involved in T-cell signal transduction. The International Radiation Hybrid Mapping Consortium mapped the p62 gene to chromosome 5q35. Park et al. (1995) found that the p56-lck SH2 domain binds to p62 at the ser59 of p62 only when that serine is phosphorylated. Joung et al. (1996) expressed epitope-tagged p62 in Hela cells and showed that the expressed protein bound to the lck SH2 domain and that this binding was dependent on the N-terminal 50 amino acids of p62 but not on the tyrosine residue in this region.

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Overview

Product Name	Anti-SQSTM1/p62 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-SQSTM1/p62 Antibody Picoband® catalog # PB9444. Tested in IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat. 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	IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2mg Na2HPO4, 0.05 mg 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	Rabbit
Uniprot ID	Q13501

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human SQSTM1/p62,

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	identical to the related mouse and rat sequences.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P), IHC(F) and ICC.
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, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunofluorescence, 2ug/ml, Human Immunohistochemistry (Frozen Section), 0.5-1ug/ml, Mouse, Rat Immunocytochemistry, 0.5-1ug/ml, Human

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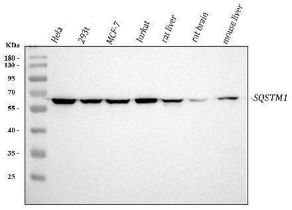
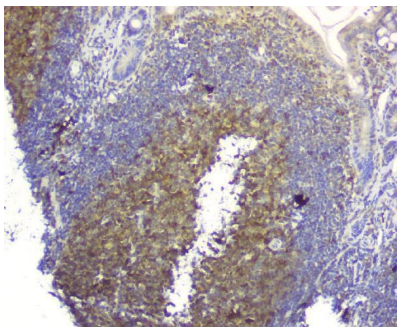
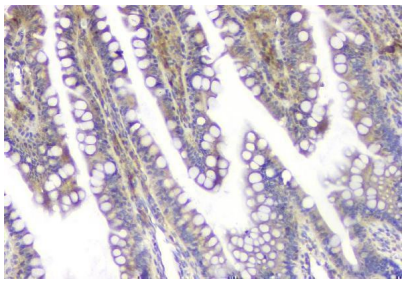
Anti-SQSTM1/p62 Antibody Picoband® (PB9444) Images



Western blot analysis of SQSTM1 using anti-SQSTM1 antibody (PB9444). 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 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: human Jurkat whole cell lysates, Lane 5: rat liver tissue lysates, Lane 6: rat brain tissue lysates, Lane 7: mouse liver tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-SQSTM1 antigen affinity purified polyclonal antibody (Catalog # PB9444) 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 SQSTM1 at approximately 62 kDa. The expected band size for SQSTM1 is at 48 kDa.



IHC analysis of SQSTM1 using anti-SQSTM1 antibody (PB9444). SQSTM1 was detected in paraffin-embedded section of mouse small intestine tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SQSTM1 Antibody (PB9444) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of SQSTM1 using anti-SQSTM1 antibody (PB9444). SQSTM1 was detected in paraffin-embedded section of rat small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SQSTM1 Antibody (PB9444) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

IHC analysis of SQSTM1 using anti-SQSTM1 antibody

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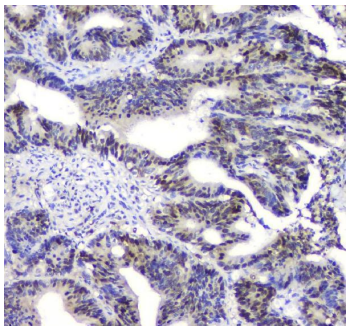
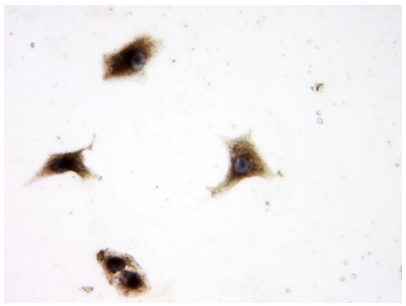
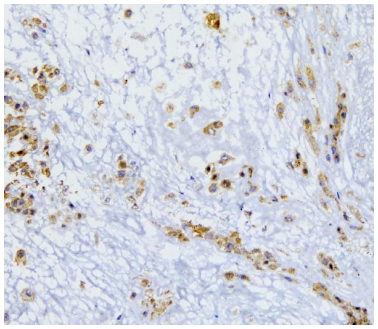


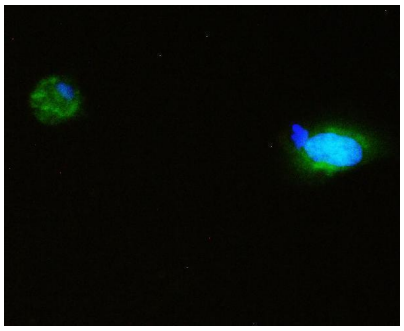
(PB9444). SQSTM1 was detected in paraffin-embedded section of human intestinal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SQSTM1 Antibody (PB9444) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



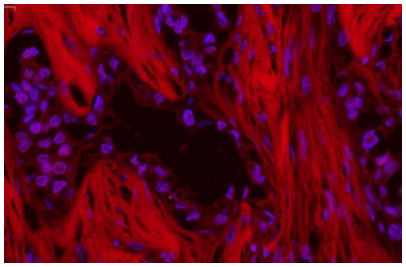
IHC analysis of SQSTM1 using anti-SQSTM1 antibody (PB9444). SQSTM1 was detected in immunocytochemical section of A549 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 1ug/ml rabbit anti-SQSTM1 Antibody (PB9444) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of SQSTM1 using anti-SQSTM1 antibody (PB9444). SQSTM1 was detected in frozen section of human placenta tissue. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-SQSTM1 Antibody (PB9444) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IF analysis of SQSTM1 using anti-SQSTM1 antibody (PB9444). SQSTM1 was detected in immunocytochemical section of A431 cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 2ug/mL rabbit anti-SQSTM1 Antibody (PB9444) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



IF analysis of SQSTM1/p62 using anti-SQSTM1/p62 antibody (PB9444) SQSTM1/p62 was detected in paraffin-embedded section of human lung cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/mL rabbit anti-SQSTM1/p62 Antibody (PB9444) overnight at 4°C. Cy3 Conjugated Goat

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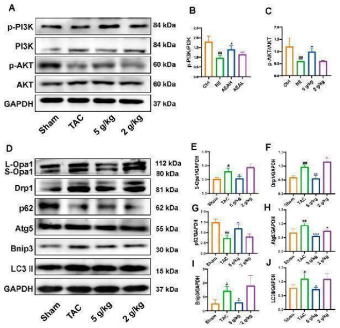
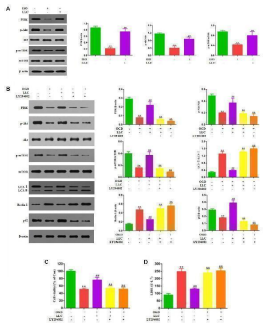
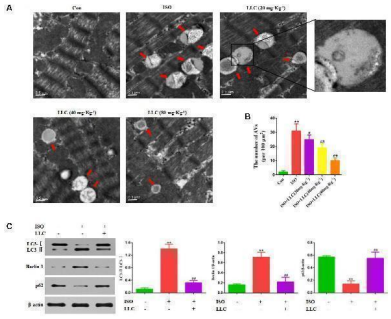
Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



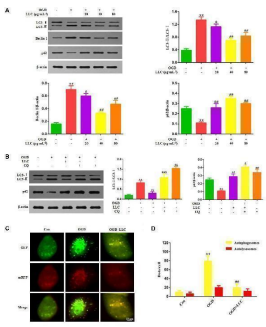
AEA improved CHF via PI3K/AKT/Bnip3 axis. (A) Representative images of PI3K/AKT axis. (B, C) The phosphorylation level of PI3K and AKT. (D) Representative images of Opa1, Drp1, Bnip3, p62, Atg5 and LC3II. (E–J) The expression level of Opa1, Drp1, Bnip3, p62, Atg5 and LC3II. (n = 3).Index in PubMed under a CC BY license. PMID: 40206063



PI3K/Akt/mTOR pathway is involved in the cardioprotective effects of LLC. (A) Expression levels of PI3K, p-Akt, Akt, p-mTOR and mTOR in hearts were analyzed. (B) Representative western blots of PI3K (p110alpha), p-Akt (Ser473), Akt, p-mTOR (Ser2448), mTOR, LC3, Beclin 1 and p62 in the presence or absence of 20 umol·L -1 LY294002 and 40 ug·mL -1 LLC. (C) The cell viability was analyzed by MTT assay. (D) The cell injury was detected by LDH measurements. All experiments were repeated at least three times. Data were presented as means ± SD. ∗∗ P < 0.01 vs. Con group, ## P < 0.01 vs. OGD group, & P < 0.05, && P < 0.01 vs. OGD+LLC group.Index in PubMed under a CC BY license. PMID: 29651246



Effects of LLC on autophagy in the hearts from rats subjected to myocardial ischemia injury. (A) Representative transmission electron ultra-images showing autophagic vacuoles (marked with red arrows in the images, scale bar = 0.5 um). (B) Quantitative analysis of the number of autophagic vacuoles in (A) . (C) Expression levels of LC3, Beclin 1 and p62 changes with LLC (80 mg·Kg -1) pretreatment. Data were presented as means ± SD. ∗∗ P < 0.01 vs. Con group, # P < 0.05, ## P < 0.01 vs. ISO group.Index in PubMed under a CC BY license. PMID: 29651246



Effects of LLC on autophagy in H9c2 cardiomyocytes under OGD. (A) Expression levels of LC3, Beclin 1 and p62 changes with LLC pretreatment. (B) Expression levels of LC3 and p62 changes in the presence or absence of 5 umol·L -1 chloroquine and 40 ug·mL -1 LLC. (C) H9c2 cardiomyocytes were transfected with mRFP-GFP-LC3 and observed by fluorescent microscope (scale bar = 10 um). (D) Mean number of autophagosomes represented by yellow dots in merged images and autolysosomes represented by red dots in merged images per cell. All experiments were repeated at least three times. Data were presented as means ± SD. ∗∗ P < 0.01 vs. Con group, ## P < 0.01 vs. OGD group, & P < 0.05, && P < 0.01 vs. OGD+LLC group, $ P < 0.05 vs.

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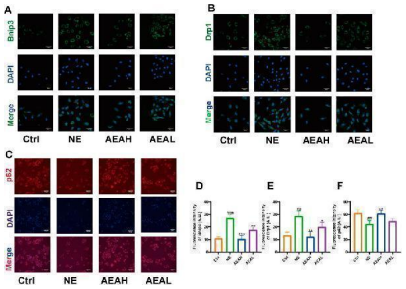
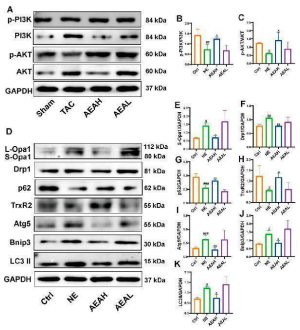
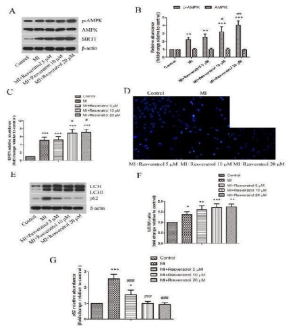
OGD+CQ group. CQ, chloroquine.Index in PubMed under a CC BY license. PMID: 29651246



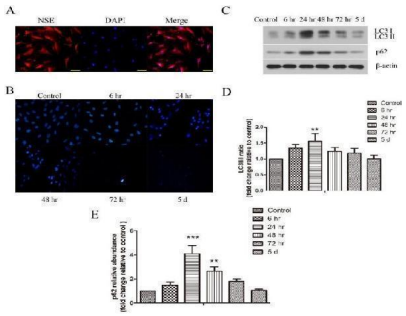
Immunofluorescence of Bnip3, Drp1, and p62 in H9c2 cells. (A) Immunofluorescence of Bnip3. (B) Immunofluorescence of Drp1. (C) Immunofluorescence of p62. (D) Quantitative analysis of Bnip3. (E) Quantitative analysis of Drp1. (F) Quantitative analysis of p62. (n = 3).Index in PubMed under a CC BY license. PMID: 40206063



AEA improved NE-induced injuries via PI3K/AKT/Bnip3 axis. (A) Representative images of PI3K/AKT axis in H9c2 cells. (B, C) The phosphorylation level of PI3K and AKT. (D) Representative images of Opa1, Drp1, TrxR2, Bnip3, p62, Atg5 and LC3II in cells. (E–K) The expression level of Opa1, Drp1, TrxR2, Bnip3, p62, Atg5 and LC3II in H9c2 cells. (n = 3).Index in PubMed under a CC BY license. PMID: 40206063



Activation of AMP-activated protein kinase/sirtuin 1 pathway by resveratrol alleviated mechanical injury-induced cell damage and impaired autophagy flux in primary spinal cord neurons. (A-C) The protein levels of p-AMPK and SIRT1 in primary spinal cord neurons were assessed by Western blot assay and the statistical analysis of the gray intensities of the bands were shown. beta-actin was used as a loading control. (D) The nucleus damage induced by MI in primary neurons of spinal cord was observed by Hoechst 33342 staining. (E-G) The protein levels of LC3I, LC3II and p62 in primary spinal cord neurons were assessed by Western blot assay. beta-actin was used as a loading control. The gray intensities of the bands were statistically analyzed and shown. The results shown represent at least three independent experiments. Each value represents the mean±SD (n= 3). * P <0.05, ** P <0.01, *** P <0.001, versus the control group. # P <0.05, ## P <0.01, ### P <0.001, versus the MI groupIndex in PubMed under a CC BY license. PMID: 29085598



The cell damage and impaired autophagy flux induced by mechanical injury in primary spinal cord neurons. (A) The primary spinal cord neurons were identified by immunofluoresence staining of NSE (magnification 400x). (B) The nucleus damage induced by MI in primary neurons of spinal cord was observed by Hoechst 33342 staining. (C-E) The protein expressions of LC3I, LC3II and p62 in primary spinal cord neurons were determined by Western blot analysis. beta-actin was used as a loading control. The gray intensities of the bands were statistically analyzed and shown. Scale bar in A is 50 um. The results shown represent at least three independent experiments. Each value represents the mean±SD (n=3). ** P <0.01, *** P <0.001,

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versus the control group MI on autophagy related proteins in primary neurons was assessed by Western blot. The results indicated that MI resulted in first increase and then decrease in LC3II/LC3I ratio (compared with control group, P <0.01) and p62 (compared with control group, P <0.001 and P <0.01, respectively) level in primary neurons over time, which was similar to that in spinal cord tissue after SCI.Index in PubMed under a CC BY license. PMID: 29085598

13 Publications Citing This Product

1. PubMed ID: 10.3390/ijms19123948, Oleuropein Induces AMPK-Dependent Autophagy in NAFLD Mice, Regardless of the Gender

2. PubMed ID: -, Zhang Tao,Xiaoqing Zhou,Yan Zhang,Wenfeng Pu,Yi Yang,Fuxia Wei,Qian Zhou,Lin Zhang,Zhonghan Du,Ji Wu,"Xi Lei San Attenuates Dextran Sulfate Sodium-Induced Colitis in Rats and TNF-alpha-Stimulated Colitis in CACO2 Cells: Involvement of the NLRP3 Inflammasome and Autophagy",Mediators of Inflammation,vol. 2021, Article ID 1610251,12 pages,2021.https://doi.org/10.1155/2021/1610251

3. PubMed ID: -, Liu, J.,Qin, X.,Ma, W.,Jia, S.,Zhang, X.,Yang, X. ... Jin, F. (2021). Corilagin induces apoptosis and autophagy in NRF2-addicted U251 glioma cell line. Molecular Medicine Reports,23,320. https://doi.org/10.3892/mmr.2021.11959

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