

Anti-Beclin 1/BECN1 Antibody Picoband™

Catalog Number: PB9076

About BECN1

Beclin-1, also known as also known as ATG6 or VPS30 is a protein that in humans is encoded by the BECN1 gene. Beclin-1 and its binding partner class III phosphoinositide 3-kinase (PI3K), also named Vps34, are required for the initiation of the formation of the autophagosome in autophagy. This gene participates in the regulation of autophagy and has an important role in development, tumorigenesis, and neurodegeneration. Schizophrenia is associated with low levels of Beclin-1 in the hippocampus of the affected which causes diminished autophagy which in turn results in increased neuronal cell death. It has been found that beclin-1 can promote autophagy in autophagy-defective yeast with a targeted disruption of *apg6/vps30*, and in human MCF7 breast carcinoma cells.

Overview

Product Name	Anti-Beclin 1/BECN1 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Beclin 1/BECN1 Antibody Picoband™ catalog # PB9076. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
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	Q14457

Technical Details

Immunogen	E.coli-derived human Beclin 1 recombinant protein (Position: M1-S354). Human Beclin 1 shares 97% amino acid (aa) sequence identity with both mouse and rat Beclin 1.
Predicted Reactive Species	Bovine, Canine, Monkey, Rabbit
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) 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	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Human Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Mouse, Rat, By Heat Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry, 1-3ug/1x10⁶ cells, Human

Anti-Beclin 1/BECN1 Antibody Picoband™ (PB9076) Images

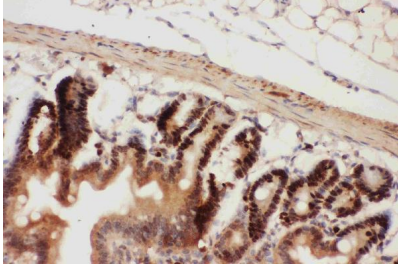


Figure 1. IHC analysis of Beclin 1 using anti-Beclin 1 antibody (PB9076). Beclin 1 was detected in a paraffin-embedded section of mouse intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-Beclin 1 Antibody (PB9076) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

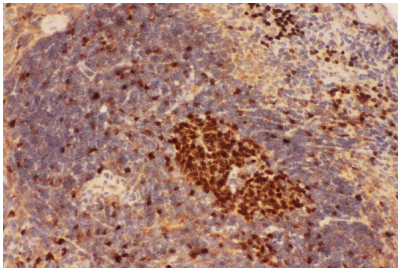


Figure 2. IHC analysis of Beclin 1 using anti-Beclin 1 antibody (PB9076). Beclin 1 was detected in a paraffin-embedded section of mouse spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-Beclin 1 Antibody (PB9076) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

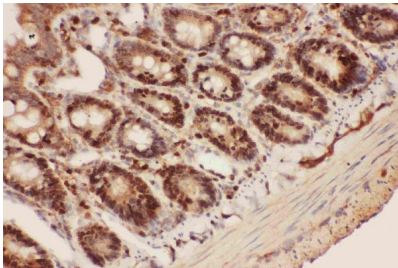


Figure 3. IHC analysis of Beclin 1 using anti-Beclin 1 antibody (PB9076). Beclin 1 was detected in a paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-Beclin 1 Antibody (PB9076) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

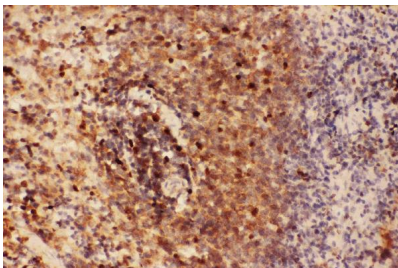


Figure 4. IHC analysis of Beclin 1 using anti-Beclin 1 antibody (PB9076). Beclin 1 was detected in a paraffin-embedded section of rat spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-Beclin 1 Antibody (PB9076) 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 Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

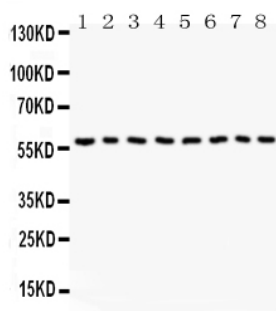


Figure 5. Western blot analysis of Beclin 1 using anti-Beclin 1 antibody (PB9076).

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 Colo320 whole cell lysates,

Lane 2: human HepG2 whole cell lysates,

Lane 3: human PANC whole cell lysates,

Lane 4: human A431 whole cell lysates,

Lane 5: human Smmc whole cell lysates,

Lane 6: human Jurkat whole cell lysates,

Lane 7: human SW620 whole cell lysates,

Lane 8: human U87 whole cell 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-Beclin 1 antigen affinity purified polyclonal antibody (Catalog # PB9076) 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 Beclin 1 at approximately 60 kDa. The expected band size for Beclin 1 is at 52 kDa.

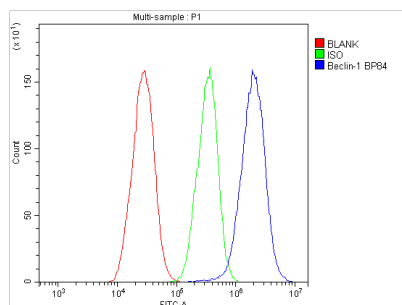


Figure 6. Flow Cytometry analysis of HepG2 cells using anti-Beclin-1 antibody (PB9076).

Overlay histogram showing HepG2 cells stained with PB9076 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Beclin-1 Antibody (PB9076, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

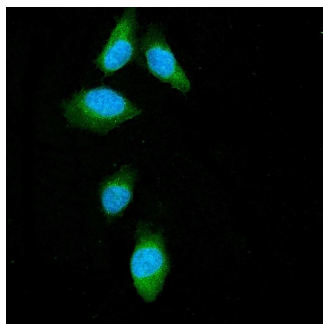


Figure 7. IF analysis of Beclin-1 using anti-Beclin-1 antibody (PB9076).

Beclin-1 was detected in immunocytochemical section of U2OS cells. 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-Beclin-1 Antibody (PB9076) 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.

1. PubMed ID: 10.3390/toxins13070503, The Protein-Independent Role of Phosphate in the Progression of Chronic Kidney Disease
2. PubMed ID: 10.1007/s12288-019-01241-3, MicroRNA 30a Mediated Autophagy and Imatinib Response in Egyptian Chronic Myeloid Leukemia Patients
3. PubMed ID: 10.1155/2021/5584447, Autophagic Degradation of Gasdermin D Protects against Nucleus Pulposus Cell Pyroptosis and Retards Intervertebral Disc Degeneration In Vivo

Visit bosterbio.com/anti-beclin-1-picoband-trade-antibody-pb9076-boster.html to see all 15 publications.

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