

Anti-Beclin-1 BECN1 Antibody

Catalog Number: A00327-1

About BECN1

Autophagy, the process of bulk degradation of cellular proteins through an autophagosomic-lysosomal pathway is important for normal growth control and may be defective in tumor cells. Beclin-1, a coiled-coil Bcl-2-interacting protein homologous to the yeast autophagy gene *apg6*, is a mammalian autophagy gene that can inhibit tumorigenesis and is expressed at reduced levels in human breast carcinoma, suggesting that defects in autophagy proteins may contribute to the development or progression of tumors. Bcl-2 can bind to Beclin-1 and inhibit Beclin-1-dependent autophagy in yeast and mammalian cells, suggesting that Bcl-2 functions as an anti-autophagy protein as well as an anti-apoptotic protein, which helps maintain autophagy at levels that are more compatible with cell survival rather than cell death.

Overview

Product Name	Anti-Beclin-1 BECN1 Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Beclin-1 BECN1 Antibody (Catalog # A00327-1). Tested in ELISA, WB, IHC-P, IF applications. This antibody reacts with Human, Mouse, Rat.
Application	ELISA, IF, IHC-P, WB
Clonality	Polyclonal
Formulation	Beclin-1 Antibody is supplied in PBS containing 0.02% sodium azide.
Storage Instructions	Beclin-1 antibody can be stored at 4°C up to one year. Antibodies should not be exposed to prolonged high temperatures.
Host	Rabbit
Uniprot ID	Q14457

Technical Details

Immunogen	Anti-Beclin-1 antibody was raised against a peptide corresponding to 17 amino acids near the center of human Beclin-1. The immunogen is located between 40-90 amino acids of Beclin-1.
Predicted Reactive Species	Bovine, Pig
Cross Reactivity	HDAC2 antibody is human, mouse and rat reactive. At least two isoforms of HDAC2 are known to exist; this antibody will detect both isoforms. HDAC2 antibody is predicted to not cross-react with other members of the HDAC family.
Isotype	IgG
Form	Liquid

Concentration	1 mg/mL
Purification	Beclin-1 Antibody is affinity chromatography purified via peptide column.
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: WB: 1 ug/mL; IHC: 2 ug/mL; IF: 20 ug/mL. Antibody validated: Western Blot in human, mouse and rat samples; Immunohistochemistry in human, mouse, and rat samples; Immunofluorescence in human and mouse samples. All other applications and species not yet tested. Optimal dilutions for each application should be determined by the researcher.

Anti-Beclin-1 BECN1 Antibody (A00327-1) Images

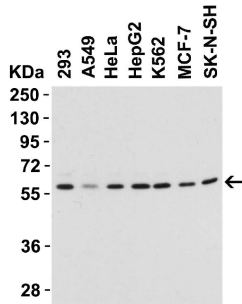


Figure 1. WB Validation in Human Cell Lines.
Loading: 15 ug of lysate. Antibodies: Beclin-1 (A00327-1), 1 ug/mL, 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat Anti-Rabbit IgG HRP conjugate at 1:10000 dilution.

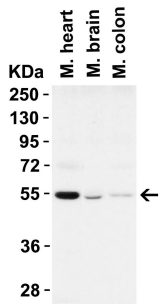


Figure 2. WB Validation in Mouse Cell Lines.
Loading: 15 ug of lysate. Antibodies: Beclin-1 (A00327-1), 1 ug/mL, 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat Anti-Rabbit IgG HRP conjugate at 1:10000 dilution.

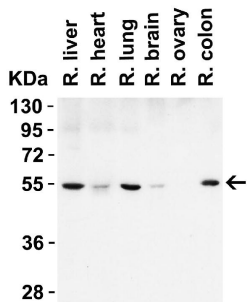


Figure 3. WB Validation in Rat Cell Lines.
Loading: 15 ug of lysate. Antibodies: Beclin-1 (A00327-1), 1 ug/mL, 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat Anti-Rabbit IgG HRP conjugate at 1:10000 dilution.

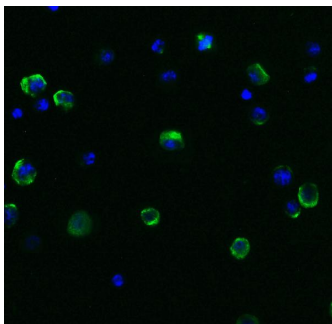


Figure 4. Immunofluorescence Validation of Beclin-1 in HELA Cells.
Immunofluorescent analysis of 4% paraformaldehyde-fixed Hela cells labeling Beclin-1 with A00327-1 at 10 ug/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green) and DAPI antibody (blue).

Figure 5. Immunofluorescence Validation of Beclin-1 in Mouse Brain Tissue.
Immunofluorescent analysis of 4% paraformaldehyde-fixed mouse brain cells labeling Beclin-1 with A00327-1 at 20 ug/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green) and DAPI antibody (blue).

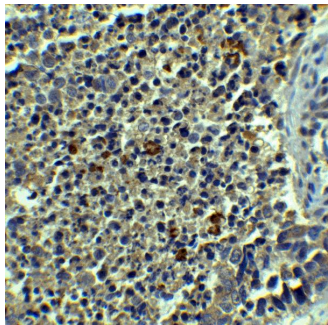
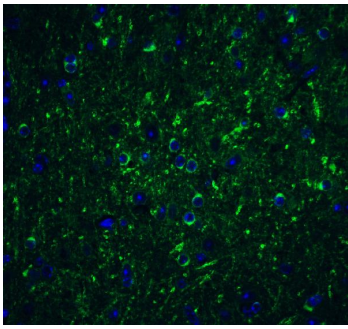


Figure 6. Immunohistochemistry Validation of Beclin-1 in Human Brain Tissue.

Immunohistochemical analysis of paraffin-embedded human brain tissue using anti-Beclin-1 antibody (A00327-1) at 2.5 ug/ml. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4°C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counterstained with Hematoxylin.

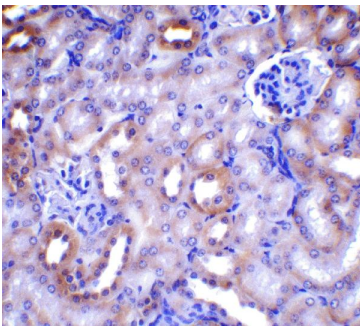


Figure 7. Immunohistochemistry Validation of Beclin-1 in Mouse Kidney Tissue.

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue using anti-Beclin-1 antibody (A00327-1) at 1 ug/ml. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4°C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counterstained with Hematoxylin.

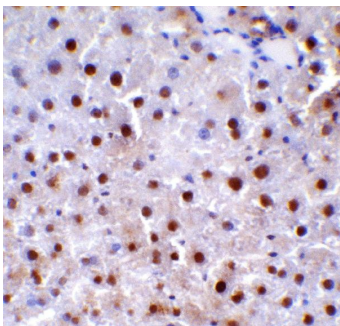


Figure 8. Immunohistochemistry Validation of Beclin-1 in Rat Liver Tissue.

Immunohistochemical analysis of paraffin-embedded rat liver tissue using anti-Beclin-1 antibody (A00327-1) at 1 ug/ml. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4°C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counterstained with Hematoxylin.

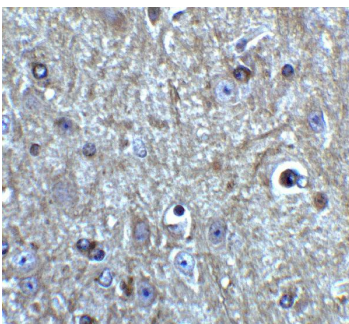


Figure 9. Immunohistochemistry Validation of Beclin-1 in Rat Spleen Tissue.

Immunohistochemical analysis of paraffin-embedded rat spleen tissue using anti-Beclin-1 antibody (A00327-1) at 1 ug/ml. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4°C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counterstained with Hematoxylin.

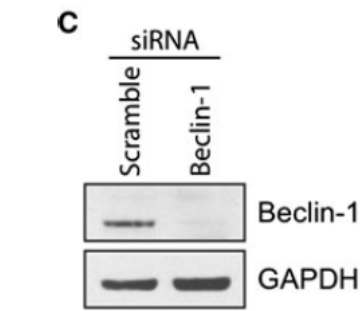


Figure 10. Knockdown of Beclin-1 in Human T47D Cells (Thomas et al., 2011).

T47D cells were transfected with scrambled or Beclin-1 siRNA. The following day, these cells were treated with vehicle, C, 0.5 mM VPA, 10 IM 4OH-tamoxifen, T, or 0.5 mM VPA and 10 IM 4OH-tamoxifen, VT, for 48 h and viability was assayed by dye exclusion.

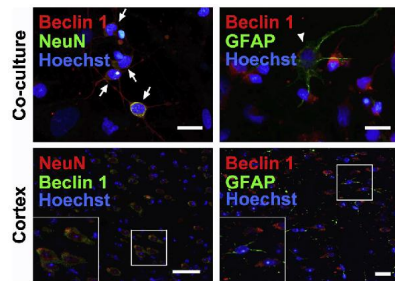


Figure 11. Immunofluorescent Validation of Beclin-1 in Human Cortical Neurons and Rat Brain (Wang et al., 2017).

Cell specificity of Beclin 1 expression. Cortical neurons and glia co-cultures (upper panels) and cortex slices (lower panels) were immunostained with anti-Beclin 1 (red) and NeuN (neuronal biomarker, green) or GFAP (astrocyte biomarker, green). Neurons and astrocyte in cultured cells were indicated by arrows and arrowhead, respectively. Areas in white boxes were enlarged.

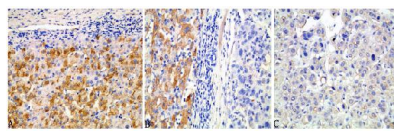


Figure 12. Immunohistochemistry Validation of Beclin-1 in Human HCC Cells (Qiu et al., 2014).

Beclin-1 exhibited cytoplasmic staining in adjacent non-tumor (ANT) tissues (A), bordering site between HCC and ANT (B: left, ANT; right: HCC), and HCC (C), respectively. Beclin-1 expression was stronger in ANT than in HCC. Magnification $\times 400$.

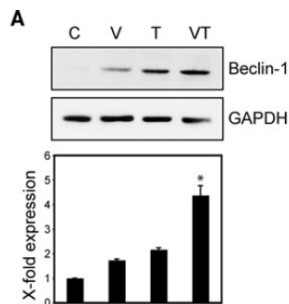


Figure 13. Regulated Expression of Beclin-1 in Human T47D Cells (Thomas et al., 2011).

Treatment with tamoxifen and an HDAC inhibitor alters the balance of autophagy and apoptosis inhibitors and drivers. T47D cells were treated with vehicle, C, 0.5 mM VPA, V, 10 IM 4Ohtamoxifen, T, or 0.5 mM VPA and 10 IM 4OH-tamoxifen, VT, for 48 h and Beclin-1 protein and RNA

2 Publications Citing This Product

1. PubMed ID: 33529908, Ni K, Hua Y. Hydrogen sulfide exacerbated periodontal inflammation and induced autophagy in experimental periodontitis. *Int Immunopharmacol*. 2021 Jan 30;93:107399. doi:10.1016/j.intimp.2021.107399. Epub ahead of print. PMID:33529908.
2. PubMed ID: 31900522, Song L, Yao L, Zhang L, Piao Z, Lu Y. Schizandrol A protects against Abeta1-42-induced autophagy via activation of PI3K/AKT/mTOR pathway in SH-SY5Y cells and primary hippocampal neurons. *Naunyn Schmiedeberg Arch Pharmacol*. 2020 Sep;393(9):1739-1752. doi:10.1007/s00

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