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Beclin 1 Antibody (Ascites)

Mouse Monoclonal Antibody (Mab)
Catalog # AM1818a

Product Information

Application	IF, WB, IHC-P, E
Primary Accession	Q14457
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG3λ
Clone Names	15CT26
Calculated MW	51896

Additional Information

Gene ID	8678
Other Names	Beclin-1, Coiled-coil myosin-like BCL2-interacting protein, Protein GT197, BECN1, GT197
Target/Specificity	This Beclin 1 antibody was raised using purified His-tagged recombinant full length human Autophagy BECN1.
Dilution	IF~~1:100 WB~~1:50~2000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Beclin 1 Antibody (Ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BECN1
Synonyms	GT197
Function	Plays a central role in autophagy (PubMed: 18570871, PubMed:21358617, PubMed:23184933, PubMed:23974797, PubMed:25484083, PubMed:28445460, PubMed:37776275). Acts as a core subunit of the PI3K complex that mediates formation of phosphatidylinositol 3-phosphate;

	different complex forms are believed to play a role in multiple membrane trafficking pathways: PI3KC3-C1 is involved in initiation of autophagosomes and PI3KC3-C2 in maturation of autophagosomes and endocytosis. Involved in regulation of degradative endocytic trafficking and required for the abscission step in cytokinesis, probably in the context of PI3KC3-C2 (PubMed:20208530, PubMed:20643123, PubMed:23974797, PubMed:26783301). Essential for the formation of PI3KC3-C2 but not PI3KC3-C1 PI3K complex forms. Involved in endocytosis (PubMed:25275521). May play a role in antiviral host defense.
Cellular Location	Cytoplasm. Golgi apparatus, trans-Golgi network membrane; Peripheral membrane protein. Endosome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein. Mitochondrion membrane; Peripheral membrane protein. Endosome {ECO:0000250|UniProtKB:O88597} Cytoplasmic vesicle, autophagosome. Note=Interaction with ATG14 promotes translocation to autophagosomes. Expressed in dendrites and cell bodies of cerebellar Purkinje cells (By similarity) {ECO:0000250|UniProtKB:O88597, ECO:0000269|PubMed:19050071} [Beclin-1-C 37 kDa]: Mitochondrion {ECO:0000250|UniProtKB:O88597}
Tissue Location	Ubiquitous.

Background

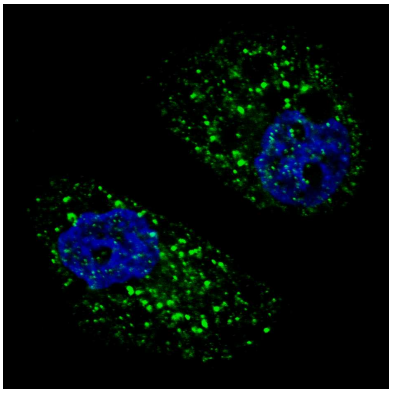
Beclin-1 participates in the regulation of autophagy and has an important role in development, tumorigenesis, and neurodegeneration (Zhong et al., 2009 [PubMed 19270693]).

References

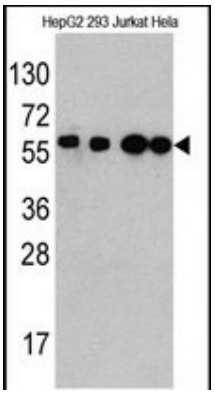
References for protein:
1.Age at onset in Huntington's disease is modified by the autophagy pathway: implication of the V471A polymorphism in Atg7. Metzger S, et al. Hum Genet, 2010 Oct. PMID 20697744.
2.Interaction of Beclin 1 with survivin regulates sensitivity of human glioma cells to TRAIL-induced apoptosis. Niu TK, et al. FEBS Lett, 2010 Aug 20. PMID 20638385.
3.Regulation of amyloid precursor protein processing by the Beclin 1 complex. Jaeger PA, et al. PLoS One, 2010 Jun 15. PMID 20559548.
4.Genetic and epigenetic silencing of the beclin 1 gene in sporadic breast tumors. Li Z, et al. BMC Cancer, 2010 Mar 16. PMID 20230646.
5.Over-expression of the Beclin1 gene upregulates chemosensitivity to anti-cancer drugs by enhancing therapy-induced apoptosis in cervix squamous carcinoma CaSki cells. Sun Y, et al. Cancer Lett, 2010 Aug 28. PMID 20207475.
References for U251 cell line:
1. Westermark B.; Pontén J.; Hugosson R. (1973).” Determinants for the establishment of permanent tissue culture lines from human gliomas”. Acta Pathol Microbiol Scand A. 81:791-805. [PMID: 4359449].
2. Pontén, J.,Westermark B. (1978).” Properties of Human Malignant Glioma Cells in Vitro”. Medical Biology 56: 184-193.[PMID: 359950].
3. Geng Y.;Kohli L.; Klocke B.J.; Roth K.A.(2010). “Chloroquine-induced autophagic vacuole accumulation and cell death in glioma cells is p53 independent”. Neuro Oncol. 12(5): 473–481.[PMID: 20406898].

Images

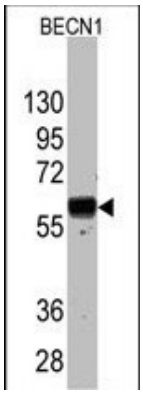
Fluorescent image of U251 cells stained with AM1818a Beclin1 antibody.U251 cells were treated with Chloroquine (50 μM,16h), then fixed with 4% PFA (20



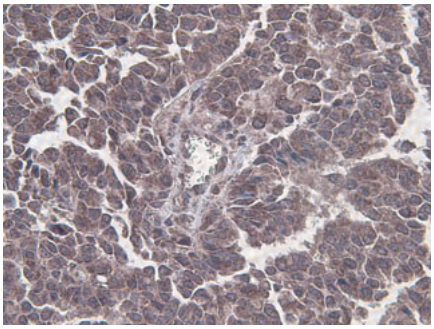
min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AM1818a Beclin1 primary antibody (1:100, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). Beclin1 immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.



Western blot analysis of anti-BECN1 Mab (Cat. #AM1818a) in HepG2, 293, Jurkat and Hela cell line lysates (35µg/lane). BECN1 (arrow) was detected using the Mab ascites (1:2000 dilution).



Western blot analysis of anti-BECN1 Mab (Cat. #AM1818a) in recombinant BECN1 protein. BECN1(arrow) was detected using the ascites Mab (1:2000 dilution).



Breast CA section stained with Autophagy Beclin 1 Antibody (Cat. # AM1818a) at a 1:50 dilution. Data courtesy of Dr. Anita Thyagarajan, Cancer Research Laboratory, Methodist Research Institute, Indianapolis, Indiana.

Citations

- The interaction of Atg4B and Bcl-2 plays an important role in Cd-induced crosstalk between apoptosis and autophagy through disassociation of Bcl-2-Beclin1 in A549 cells.
- Echovirus 7 entry into polarized caco-2 intestinal epithelial cells involves core components of the autophagy machinery.
- Activation of autophagy in mesenchymal stem cells provides tumor stromal support.
- Selective subversion of autophagy complexes facilitates completion of the Brucella intracellular cycle.
- Immunohistochemical evidence for macroautophagy in neurones and endothelial cells in Alzheimer's disease.

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