SANTA CRUZ BIOTECHNOLOGY, INC.

BECN1 (D-18): sc-10086

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BECN1 (Beclin 1) is a coiled-coil protein that has been implicated as an inhibitor of tumorigenesis. BECN1, which associates with Bcl-2, plays a significant role in autophagy. Autophagy is the degradation of cellular proteins in the lysosomes, and when this pathway is suppressed, cell growth is deregulated. Autophagy is controlled by the same signal transduction pathway that induces the phosphorylation of the ribosomal protein S6, and both are mediated via amino acids. BECN1 expression in various carcinoma cell lines, such as MCF7, is low, whereas it is ubiquitously expressed in normal breast tissue. In transfected MCF7 cells, BECN1 complements autophagocytosis and, subsequently, inhibits cellular proliferation. Additionally, BECN1 shares structural similarity to the yeast autophagy gene product, Apg6, and was one of the first mammalian proteins discovered to mediate autophagy.

CHROMOSOMAL LOCATION

Genetic locus: BECN1 (human) mapping to 17q21.1; Becn1 (mouse) mapping to 11 D.

SOURCE

BECN1 (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of BECN1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10086 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

BECN1 (D-18) is recommended for detection of BECN1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BECN1 (D-18) is also recommended for detection of BECN1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for BECN1 siRNA (h): sc-29797, BECN1 siRNA (m): sc-29798, BECN1 shRNA Plasmid (h): sc-29797-SH, BECN1 shRNA Plasmid (m): sc-29798-SH, BECN1 shRNA (h) Lentiviral Particles: sc-29797-V and BECN1 shRNA (m) Lentiviral Particles: sc-29798-V.

Molecular Weight of BECN1: 60 kDa.

Positive Controls: BECN1 (h): 293T Lysate: sc-113511, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

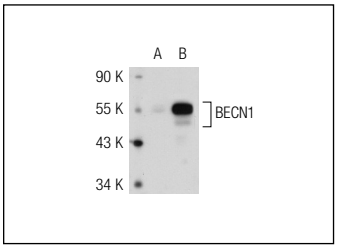
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

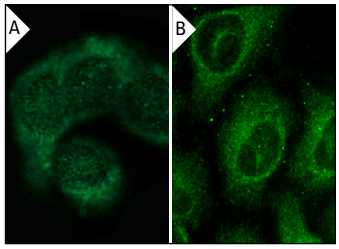
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



BECN1 (D-18): sc-10086. Western blot analysis of BECN1 expression in non-transfected: sc-117752 (**A**) and human BECN1 transfected: sc-113511 (**B**) 293T whole cell lysates.



BECN1 (D-18): sc-10086. Immunofluorescence staining of methanol-fixed MCF7 (**A**) and HeLa (**B**) cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Castino, R., et al. 2005. Autophagy is a prosurvival mechanism in cells expressing an autosomal dominant familial neurohypophyseal diabetes insipidus mutant vasopressin transgene. FASEB J. 19: 1021-1023.
2. Hamacher-Brady, A., et al. 2006. Enhancing macroautophagy protects against ischemia/reperfusion injury in cardiac Myocytes. J. Biol. Chem. 281: 29776-29787.
3. Chen, Y., et al. 2007. Mitochondrial electron-transport-chain inhibitors of complexes I and II induce autophagic cell death mediated by reactive oxygen species. J. Cell Sci. 120: 4155-4166.
4. Caballero, B., et al. 2009. Melatonin alters cell death processes in response to age-related oxidative stress in the brain of senescence-accelerated mice. J. Pineal Res. 46: 106-114.
5. Vega-Naredo, I. and Coto-Montes, A. 2009. Physiological autophagy in the Syrian hamster Harderian gland. Meth. Enzymol. 452: 457-476.
6. Vega-Naredo, I., et al. 2009. Sexual dimorphism of autophagy in Syrian hamster Harderian gland culminates in a holocrine secretion in female glands. Autophagy 5: 1004-1017.
7. Coto-Montes, A., et al. 2009. Sexual autophagic differences in the androgen-dependent flank organ of Syrian hamsters. J. Androl. 30: 113-121.
8. Duan, W., et al. 2010. Silibinin induced autophagic and apoptotic cell death in HT1080 cells through a reactive oxygen species pathway. J. Pharmacol. Sci. 113: 48-56.
9. Pozuelo-Rubio, M. 2011. Regulation of autophagic activity by 14-3-3ζ proteins associated with class III phosphatidylinositol-3-kinase. Cell Death Differ. 18: 479-492.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.