

SANTA CRUZ BIOTECHNOLOGY, INC.

BECN1 (H-300): sc-11427



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.

REFERENCES

1. Kisen, G.O., et al. 1993. Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites hepatoma cells. *Carcinogenesis* 14: 2501-2505.
2. Bloomaart, E.F., et al. 1995. Phosphorylation of ribosomal protein S6 is inhibitory for autophagy in isolated rat hepatocytes. *J. Biol. Chem.* 270: 2320-2326.
3. Blommaart, E.F., et al. 1997. Autophagic proteolysis: control and specificity. *Histochem. J.* 29: 365-385.
4. Liang, X.H., et al. 1998. Protection against fatal Sindbis virus encephalitis by beclin, a novel Bcl-2 interacting protein. *J. Virol.* 72: 8586-8596.
5. Aita, V.M., et al. 1999. Cloning and genomic organization of beclin 1, a candidate tumor suppressor gene on chromosome 17q21. *Genomics* 59: 59-65.
6. Liang, X.H., et al. 1999. Induction of autophagy and inhibition of tumorigenesis of beclin 1. *Nature* 402: 672-676.

CHROMOSOMAL LOCATION

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

SOURCE

BECN1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at 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.

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.

APPLICATIONS

BECN1 (H-300) 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for BECN1 siRNA (h): sc-29797, BECN1 siRNA (h2): sc-44286 and BECN1 siRNA (m): sc-29798.

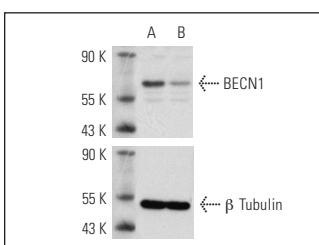
Molecular Weight of BECN1: 60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or NIH/3T3 whole cell lysate: sc-2210.

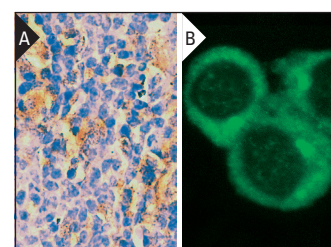
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



BECN1 siRNA (h): sc-29797. Western blot analysis of BECN1 expression in non-transfected control (A) and BECN1 siRNA transfected (B) HeLa cells. Blot probed with BECN1 (H-300): sc-11427. β Tubulin (D-10): sc-5274 used as specificity and loading control.



BECN1 (H-300): sc-11427. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse prostate tissue (A) and immunofluorescence staining of methanol-fixed NIH/3T3 cells (B) showing cytoplasmic localization.

PROTOCOLS

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