

Beclin 1 (E-8): sc-48341

BACKGROUND

Beclin 1 (BECN1) is a coiled-coil protein that has been implicated as an inhibitor of tumorigenesis. Beclin 1, 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. Beclin 1 expression in various carcinoma cell lines such as MCF7 is low, whereas it is ubiquitously expressed in normal breast tissue. In transfected MCF7 cells, Beclin 1 complements autophagocytosis and, subsequently, inhibits cellular proliferation. Additionally, Beclin 1 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 17q21.31; Becn1 (mouse) mapping to 11 D.

SOURCE

Beclin 1 (E-8) is a mouse monoclonal antibody raised against amino acids 1-300 of Beclin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Beclin 1 (E-8) is available conjugated to agarose (sc-48341 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48341 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48341 PE), fluorescein (sc-48341 FITC), Alexa Fluor® 488 (sc-48341 AF488), Alexa Fluor® 546 (sc-48341 AF546), Alexa Fluor® 594 (sc-48341 AF594) or Alexa Fluor® 647 (sc-48341 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48341 AF680) or Alexa Fluor® 790 (sc-48341 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Beclin 1 (E-8) is recommended for detection of Beclin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:3000), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Beclin 1 siRNA (h): sc-29797, Beclin 1 siRNA (m): sc-29798, Beclin 1 shRNA Plasmid (h): sc-29797-SH, Beclin 1 shRNA Plasmid (m): sc-29798-SH, Beclin 1 shRNA (h) Lentiviral Particles: sc-29797-V and Beclin 1 shRNA (m) Lentiviral Particles: sc-29798-V.

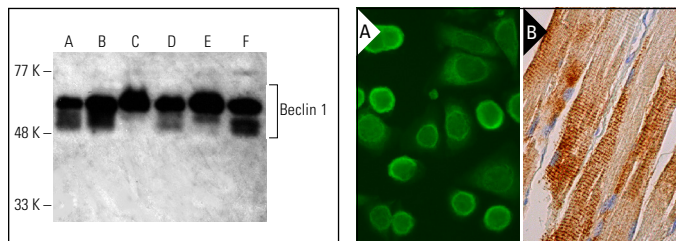
Molecular Weight of Beclin 1: 60 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, RAW 264.7 whole cell lysate: sc-2211 or HEL 92.1.7 cell lysate: sc-2270.

STORAGE

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

DATA



Beclin 1 (E-8) HRP: sc-48341 HRP. Direct western blot analysis of Beclin 1 expression in NIH/3T3 (A), C3H/10T1/2 (B), HEL 92.1.7 (C), RAW 264.7 (D), Jurkat (E) and AT-3 (F) whole cell lysates.

Beclin 1 (E-8) Alexa Fluor® 488: sc-48341 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and perinuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (A). Beclin 1 (E-8): sc-48341. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (B).

SELECT PRODUCT CITATIONS

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- Wang, J., et al. 2013. Decreased autophagy contributes to myocardial dysfunction in rats subjected to nonlethal mechanical trauma. PLoS ONE 8: e71400.
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- Tan, X., et al. 2015. A kinase-independent role for EGF receptor in autophagy initiation. Cell 160: 145-160.
- Xu, D., et al. 2016. USP14 regulates autophagy by suppressing K63 ubiquitination of Beclin 1. Genes Dev. 30: 1718-1730.
- Liu, J., et al. 2017. BECN1-dependent CASP2 incomplete autophagy induction by binding to rabies virus phosphoprotein. Autophagy 13: 739-753.
- Festa, B.P., et al. 2018. Impaired autophagy bridges lysosomal storage disease and epithelial dysfunction in the kidney. Nat. Commun. 9: 161.
- Sun, G., et al. 2019. WZY-321, a novel evodiamine analog, inhibits glioma cell growth in an autophagy-associated manner. Oncol. Lett. 17: 2465-2472.
- Mohamud, Y., et al. 2020. Coxsackievirus infection induces a non-canonical autophagy independent of the ULK and PI3K complexes. Sci. Rep. 10: 19068.
- Zhang, L., et al. 2021. Graphene oxide induces dose-dependent lung injury in rats by regulating autophagy. Exp. Ther. Med. 21: 462.

RESEARCH USE

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