SANTA CRUZ BIOTECHNOLOGY, INC.

Katanin p60 AL1 (E-5): sc-398801

BACKGROUND

Microtubules are polymers of α and β subunits that form the mitotic spindle and assist in the organization of membranous organelles during interphase. Katanin is a heterodimer complex that severs microtubules in an ATP-dependent manner. The severing of microtubules by the Katanin complex may promote reorganization of cellular microtubule arrays and release of microtubules from the centrosome following nucleation. The Katanin complex is composed of a 60 kDa subunit (Katanin p60 A1) and a 80 kDa accessory protein (Katanin p80 B1). Katanin p60 A1 is responsible for the severing and disassembly of microtubules, while Katanin p80 B1 targets the complex to the centrosome. Katanin p60 A1 and Katanin p80 B1 belong to the AAA ATPase family, which also includes the Katanin p60 A1-like proteins, Katanin p60 AL1 and Katanin p60 AL2.

REFERENCES

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2. McNally, F.J., et al. 1996. Katanin, the microtubule-severing ATPase, is concentrated at centrosomes. J. Cell Sci. 109: 561-567.
3. Hartman, J.J., et al. 1998. Katanin, a microtubule-severing protein, is a novel AAA ATPase that targets to the centrosome using a WD40-containing subunit. Cell 93: 277-287.
4. Ahmad, F.J., et al. 1999. An essential role for Katanin in severing microtubules in the neuron. J. Cell Biol. 145: 305-315.
5. McNally, K.P., et al. 2000. Two domains of p80 Katanin regulate microtubule severing and spindle pole targeting by p60 Katanin. J. Cell Sci. 113: 1623-1633.
6. Karabay, A., et al. 2004. Axonal growth is sensitive to the levels of Katanin, a protein that severs microtubules. J. Neurosci. 24: 5778-5788.
7. Toyo-Oka, K., et al. 2005. Recruitment of Katanin p60 by phosphorylated NDEL1, an LIS1 interacting protein, is essential for mitotic cell division and neuronal migration. Hum. Mol. Genet. 14: 3113-3128.
8. Sudo, H. and Maru, Y. 2008. LAPSER1/LZTS2: a pluripotent tumor suppressor linked to the inhibition of Katanin-mediated microtubule severing. Hum. Mol. Genet. 17: 2524-2540.

CHROMOSOMAL LOCATION

Genetic locus: KATNAL1 (human) mapping to 13q12.3.

SOURCE

Katanin p60 AL1 (E-5) is a mouse monoclonal antibody raised against amino acids 78-184 mapping within an internal region of Katanin p60 AL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Katanin p60 AL1 (E-5) is recommended for detection of Katanin p60 AL1 of human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Katanin p60 AL1 siRNA (h): sc-75364, Katanin p60 AL1 shRNA Plasmid (h): sc-75364-SH and Katanin p60 AL1 shRNA (h) Lentiviral Particles: sc-75364-V.

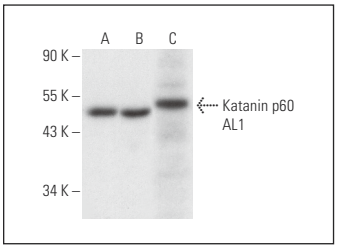
Molecular Weight of Katanin p60 AL1: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or A549 cell lysate: sc-2413.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Katanin p60 AL1 (E-5): sc-398801. Western blot analysis of Katanin p60 AL1 expression in HeLa (**A**), Jurkat (**B**) and A549 (**C**) whole cell lysates.

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.

PROTOCOLS

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