



Katanin p60 A1 (D-14): sc-109298

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 p60 A1, also known as KATNA1, is a 491 amino acid protein that belongs to the AAA ATPase family and is involved in microtubule regulation. Localized to the cytoplasm and to the centrosome, Katanin p60 A1 functions to sever and disassemble microtubules in an ATP-dependent manner, thus promoting the rapid reorganization of cellular microtubule arrays and playing an important role in microtubule release from the centrosome after nucleation. Katanin p60 A1, which exists as two alternatively spliced isoforms, can homo-oligomerize into hexameric rings whose activity is stimulated by the presence of microtubules.

REFERENCES

- McNally, F.J. and Vale, R.D. 1993. Identification of Katanin, an ATPase that severs and disassembles stable microtubules. *Cell* 75: 419-429.
- McNally, F.J., Okawa, K., Iwamatsu, A. and Vale, R.D. 1996. Katanin, the microtubule-severing ATPase, is concentrated at centrosomes. *J. Cell Sci.* 109: 561-567.
- McNally, F.J. and Thomas, S. 1998. Katanin is responsible for the M-phase microtubule-severing activity in *Xenopus* eggs. *Mol. Biol. Cell* 9: 1847-1861.
- Ahmad, F.J., Yu, W., McNally, F.J. and Baas, P.W. 1999. An essential role for Katanin in severing microtubules in the neuron. *J. Cell Biol.* 145: 305-315.
- McNally, K.P., Bazirgan, O.A. and McNally, F.J. 2000. Two domains of p80 Katanin regulate microtubule severing and spindle pole targeting by p60 Katanin. *J. Cell Sci.* 113: 1623-1633.
- Buster, D., McNally, K. and McNally, F.J. 2002. Katanin inhibition prevents the redistribution of γ Tubulin at mitosis. *J. Cell Sci.* 115: 1083-1092.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606696. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- 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.
- Yu, W., Qiang, L., Solowska, J.M., Karabay, A., Korulu, S. and Baas, P.W. 2008. The microtubule-severing proteins spastin and Katanin participate differently in the formation of axonal branches. *Mol. Biol. Cell* 19: 1485-1498.

CHROMOSOMAL LOCATION

Genetic locus: KATNA1 (human) mapping to 6q25.1.

SOURCE

Katanin p60 A1 (D-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Katanin p60 A1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-109298 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Katanin p60 A1 (D-14) is recommended for detection of Katanin p60 A1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 A1 siRNA (h): sc-95345, Katanin p60 A1 shRNA Plasmid (h): sc-95345-SH and Katanin p60 A1 shRNA (h) Lentiviral Particles: sc-95345-V.

Molecular Weight of Katanin p60 A1: 60 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.