



CLASP2 (h): 293T Lysate: sc-114389

BACKGROUND

CLASP2 (cytoplasmic linker associated protein 2), also known as KIAA0627 or hOrbit2, is a 1,294 amino acid protein that contains five HEAT repeats and localizes to the cytoplasm and the cytoskeleton, as well as to the kinetochore and the Golgi apparatus. Expressed primarily in brain tissue, CLASP2 functions as a microtubule plus-end tracking protein that regulates the stability of dynamic microtubules and is required for the proper polarization of cytoplasmic microtubule arrays in migrating cells. CLASP2 interacts with EB1, EB3, ELKS and CLIP-115 and, in addition to stabilizing microtubules, plays an important role in maintaining the stability of the kinetochore and is crucial for proper chromosomal alignment. CLASP2 is subject to phosphorylation by GSK-3 β , an event that is thought to negatively regulate the ability of CLASP2 to bind to microtubules. Two isoforms of CLASP2, designated β and γ , exist due to alternative splicing events.

REFERENCES

1. Akhmanova, A., et al. 2001. Clasps are CLIP-115 and -170 associating proteins involved in the regional regulation of microtubule dynamics in motile fibroblasts. *Cell* 104: 923-935.
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3. Lee, H., et al. 2004. The microtubule plus end tracking protein Orbit/MAST/CLASP acts downstream of the tyrosine kinase Abl in mediating axon guidance. *Neuron* 42: 913-926.
4. Mimori-Kiyosue, Y., et al. 2005. CLASP1 and CLASP2 bind to EB1 and regulate microtubule plus-end dynamics at the cell cortex. *J. Cell Biol.* 168: 141-153.
5. Wittmann, T. and Waterman-Storer, C.M. 2005. Spatial regulation of CLASP affinity for microtubules by Rac1 and GSK3 β in migrating epithelial cells. *J. Cell Biol.* 169: 929-939.
6. Galjart, N. 2005. CLIPs and CLASPs and cellular dynamics. *Nat. Rev. Mol. Cell Biol.* 6: 487-498.
7. Lansbergen, G., et al. 2006. CLASPs attach microtubule plus ends to the cell cortex through a complex with LL5 β . *Dev. Cell* 11: 21-32.
8. Mimori-Kiyosue, Y., et al. 2006. Mammalian CLASPs are required for mitotic spindle organization and kinetochore alignment. *Genes Cells* 11: 845-857.
9. Pereira, A.L., et al. 2006. Mammalian CLASP1 and CLASP2 cooperate to ensure mitotic fidelity by regulating spindle and kinetochore function. *Mol. Biol. Cell* 17: 4526-4542.

CHROMOSOMAL LOCATION

Genetic locus: CLASP2 (human) mapping to 3p22.3.

PRODUCT

CLASP2 (h): 293T Lysate represents a lysate of human CLASP2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

CLASP2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CLASP2 antibodies. Recommended use: 10-20 μ l per lane.

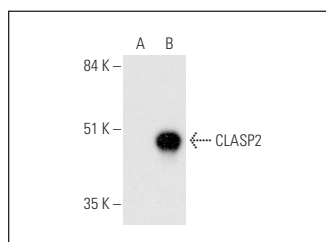
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CLASP2 (A-6): sc-514839 is recommended as a positive control antibody for Western Blot analysis of enhanced human CLASP2 expression in CLASP2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

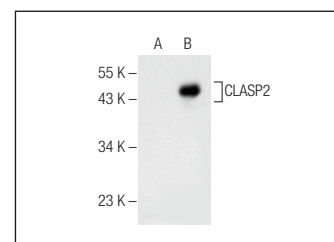
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



CLASP2 (A-6): sc-514839. Western blot analysis of CLASP2 expression in non-transfected: sc-117752 (A) and human CLASP2 transfected: sc-114389 (B) 293T whole cell lysates.



CLASP2 (F-3): sc-376496. Western blot analysis of CLASP2 expression in non-transfected: sc-117752 (A) and human CLASP2 transfected: sc-114389 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.