



KLC4 (h4): 293T Lysate: sc-177434

BACKGROUND

The kinesins constitute a large family of microtubule-dependent motor proteins which are responsible for the distribution of numerous organelles, vesicles and macromolecular complexes throughout the cell. Individual kinesin members play crucial roles in cell division, intracellular transport and membrane trafficking events, including endocytosis and transcytosis. KLC4 (kinesin light chain 4), also known as KNSL8, is a 619 amino acid member of the kinesin light chain family. Existing as a component of an oligomeric structure composed of heavy and light chains, KLC4 functions as a microtubule-associated protein that produces mechanical force and is thought to play a role in organelle transport. Multiple isoforms of KLC4 exist due to alternative splicing events.

REFERENCES

1. Lamerdin, J.E., Stilwagen, S.A., Ramirez, M.H., Stubbs, L. and Carrano, A.V. 1996. Sequence analysis of the ERCC2 gene regions in human, mouse, and hamster reveals three linked genes. *Genomics* 34: 399-409.
2. Rahman, A., Friedman, D.S. and Goldstein, L.S. 1998. Two kinesin light chain genes in mice. Identification and characterization of the encoded proteins. *J. Biol. Chem.* 273: 15395-15403.
3. Rahman, A., Kamal, A., Roberts, E.A. and Goldstein, L.S. 1999. Defective kinesin heavy chain behavior in mouse kinesin light chain mutants. *J. Cell Biol.* 146: 1277-1288.
4. Junco, A., Bhullar, B., Tarnasky, H.A. and van der Hoorn, F.A. 2001. Kinesin light-chain KLC3 expression in testis is restricted to spermatids. *Biol. Reprod.* 64: 1320-1330.
5. Ichimura, T., Wakamiya-Tsuruta, A., Itagaki, C., Taoka, M., Hayano, T., Natsume, T. and Isobe, T. 2002. Phosphorylation-dependent interaction of kinesin light chain 2 and the 14-3-3 protein. *Biochemistry* 41: 5566-5572.
6. Bhullar, B., Zhang, Y., Junco, A., Oko, R. and van der Hoorn, F.A. 2003. Association of kinesin light chain with outer dense fibers in a microtubule-independent fashion. *J. Biol. Chem.* 278: 16159-16168.
7. Zhang, Y., Oko, R. and van der Hoorn, F.A. 2004. Rat kinesin light chain 3 associates with spermatid mitochondria. *Dev. Biol.* 275: 23-33.
8. DeBoer, S.R., You, Y., Szodorai, A., Kaminska, A., Pigino, G., Nwabuisi, E., Wang, B., Estrada-Hernandez, T., Kins, S., Brady, S.T. and Morfini, G. 2008. Conventional kinesin holoenzymes are composed of heavy and light chain homodimers. *Biochemistry* 47: 4535-4543.
9. Daub, H., Olsen, J.V., Bairlein, M., Gnad, F., Oppermann, F.S., Körner, R., Greff, Z., Kéri, G., Stemmann, O., Mann, M. 2008. Kinase-selective enrichment enables quantitative phosphoproteomics of the kinome across the cell cycle. *Mol. Cell* 31: 438-448.

CHROMOSOMAL LOCATION

Genetic locus: KLC4 (human) mapping to 6p21.1.

PRODUCT

KLC4 (h4): 293T Lysate represents a lysate of human KLC4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

KLC4 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive KLC4 antibodies. Recommended use: 10-20 µl per lane.

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

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.