

KLC3 (K-21): sc-133711

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. KLC3 (kinesin light chain 3), also known as KLC2 or KLC2L, is a 504 amino acid protein that contains 5 TPR repeats and belongs to the kinesin light chain family. Existing as a component of an oligomeric composed of heavy and light chains, KLC3 functions as a microtubule-associated protein that produces mechanical force and is thought to play a role in organelle transport. Multiple isoforms of KLC3 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.

CHROMOSOMAL LOCATION

Genetic locus: KLC3 (human) mapping to 19q13.32; Klc3 (mouse) mapping to 7 A3.

SOURCE

KLC3 (K-21) is an affinity purified rabbit polyclonal antibody raised against synthetic KLC3 peptide of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

KLC3 (K-21) is recommended for detection of KLC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for KLC3 siRNA (h): sc-97086, KLC3 siRNA (m): sc-146493, KLC3 shRNA Plasmid (h): sc-97086-SH, KLC3 shRNA Plasmid (m): sc-146493-SH, KLC3 shRNA (h) Lentiviral Particles: sc-97086-V and KLC3 shRNA (m) Lentiviral Particles: sc-146493-V.

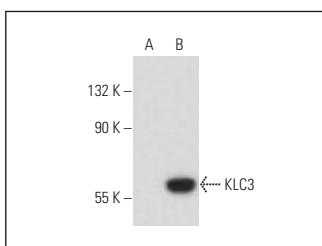
Molecular Weight of KLC3: 55 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, KLC3 (m): 293T Lysate: sc-127046 or Jurkat whole cell lysate: sc-2204.

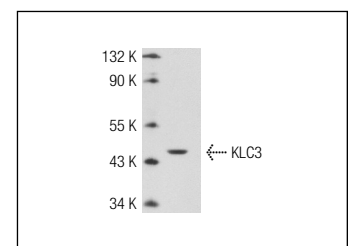
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



KLC3 (K-21): sc-133711. Western blot analysis of KLC3 expression in non-transfected: sc-117752 (A) and mouse KLC3 transfected: sc-127046 (B) 293T whole cell lysates.



KLC3 (K-21): sc-133711. Western blot analysis of KLC3 expression in Jurkat whole cell lysate.

STORAGE

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


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Try **KLC3 (E-7): sc-398332** or **KLC3 (F-6): sc-398492**, our highly recommended monoclonal alternatives to KLC3 (K-21).