

## KLC2 (E-14): sc-161099

### 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. KLC2 (kinesin light chain 2) is a 622 amino acid protein that contains 6 TPR repeats and belongs to the kinesin light chain family. Existing in an oligomeric complex composed of two light and two heavy chain kinesin proteins, KLC2 plays a role in coupling organelle transport with ATPase activity. The gene encoding KLC2 maps to human chromosome 11q13.2, which houses over 1,400 genes and comprises nearly 4% of the human genome.

### REFERENCES

1. 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.
2. 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.
3. Bowman, A.B., Kamal, A., Ritchings, B.W., Philp, A.V., McGrail, M., Gindhart, J.G. and Goldstein, L.S. 2000. Kinesin-dependent axonal transport is mediated by the sundry driver (SYD) protein. *Cell* 103: 583-594.
4. 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.
5. Takazawa, K., Noguchi, T., Hosooka, T., Yoshioka, T., Tobimatsu, K. and Kasuga, M. 2008. Insulin-induced GLUT4 movements in C2C12 myoblasts: evidence against a role of conventional kinesin motor proteins. *Kobe J. Med. Sci.* 54: E14-E22.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611729. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Dhakal, B.K. and Mulvey, M.A. 2009. Uropathogenic *Escherichia coli* invades host cells via an HDAC6-modulated microtubule-dependent pathway. *J. Biol. Chem.* 284: 446-454.

### CHROMOSOMAL LOCATION

Genetic locus: KLC2 (human) mapping to 11q13.2; Klc2 (mouse) mapping to 19 A.

### SOURCE

KLC2 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KLC2 of human origin.

### STORAGE

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

### PRODUCT

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

Blocking peptide available for competition studies, sc-161099 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

KLC2 (E-14) is recommended for detection of KLC2 of mouse, rat and 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); non cross-reactive with other KLC family members.

KLC2 (E-14) is also recommended for detection of KLC2 in additional species, including canine and bovine.

Suitable for use as control antibody for KLC2 siRNA (h): sc-96580, KLC2 siRNA (m): sc-146492, KLC2 shRNA Plasmid (h): sc-96580-SH, KLC2 shRNA Plasmid (m): sc-146492-SH, KLC2 shRNA (h) Lentiviral Particles: sc-96580-V and KLC2 shRNA (m) Lentiviral Particles: sc-146492-V.

Molecular Weight of KLC2: 69 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A549 cell lysate: sc-2413 or IMR-32 cell lysate: sc-2409.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **KLC2 (F-11): sc-515506**, our highly recommended monoclonal alternative to KLC2 (E-14).