

KLC2 (F-11): sc-515506

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 11, 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 Sunday 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.

CHROMOSOMAL LOCATION

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

SOURCE

KLC2 (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 45-62 near the N-terminus of KLC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KLC2 (F-11) is available conjugated to agarose (sc-515506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515506 PE), fluorescein (sc-515506 FITC), Alexa Fluor® 488 (sc-515506 AF488), Alexa Fluor® 546 (sc-515506 AF546), Alexa Fluor® 594 (sc-515506 AF594) or Alexa Fluor® 647 (sc-515506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515506 AF680) or Alexa Fluor® 790 (sc-515506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515506 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

KLC2 (F-11) is recommended for detection of KLC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 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.

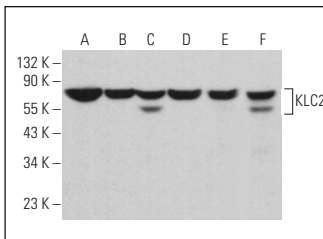
Molecular Weight of KLC2: 69 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, SK-BR-3 cell lysate: sc-2218 or A549 cell lysate: sc-2413.

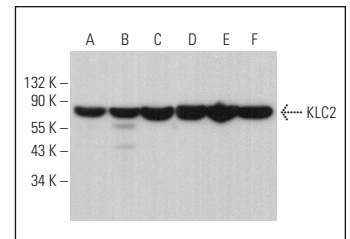
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



KLC2 (F-11): sc-515506. Western blot analysis of KLC2 expression in SJRH30 (A), BC₃H1 (B), NIH/3T3 (C), TK-1 (D) and A-10 (E) whole cell lysates and rat thymus tissue extract (F).



KLC2 (F-11): sc-515506. Western blot analysis of KLC2 expression in SK-BR-3 (A), H69AR (B), A549 (C), A-431 (D), A-375 (E) and MCF7 (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

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.

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