

KLC1 (L2): sc-58776

BACKGROUND

The kinesin family of motor proteins comprise at least two forms of conventional kinesin. They are encoded by different genes and designated as ubiquitous kinesin, which is expressed in all cells and tissues, and neuronal kinesin, which is expressed exclusively in neuronal cells. Conventional kinesin, kinesin-I, is a heterotetramer of two kinesin heavy chain subunits and two kinesin light chain subunits. While the kinesin heavy chain contains motor activity, evidence suggests that the kinesin light chain is involved in either modulation of kinesin heavy chain activity or in cargo binding. The motor protein kinesin is a heterotetramer composed of two heavy chains and two light chains. Kinesin motor activity is dependent on the presence of ATP and microtubules.

CHROMOSOMAL LOCATION

Genetic locus: KLC1 (human) mapping to 14q32.33; Klc1 (mouse) mapping to 12 F1.

SOURCE

KLC1 (L2) is a mouse monoclonal antibody raised against full length KLC1 of bovine origin.

PRODUCT

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

KLC1 (L2) is available conjugated to agarose (sc-58776 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-58776 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58776 PE), fluorescein (sc-58776 FITC), Alexa Fluor® 488 (sc-58776 AF488), Alexa Fluor® 546 (sc-58776 AF546), Alexa Fluor® 594 (sc-58776 AF594) or Alexa Fluor® 647 (sc-58776 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-58776 AF680) or Alexa Fluor® 790 (sc-58776 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

KLC1 (L2) is recommended for detection of KLC1 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)], 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).

KLC1 (L2) is also recommended for detection of KLC1 in additional species, including bovine.

Suitable for use as control antibody for KLC1 siRNA (h): sc-43880, KLC1 siRNA (m): sc-43881, KLC1 shRNA Plasmid (h): sc-43880-SH, KLC1 shRNA Plasmid (m): sc-43881-SH, KLC1 shRNA (h) Lentiviral Particles: sc-43880-V and KLC1 shRNA (m) Lentiviral Particles: sc-43881-V.

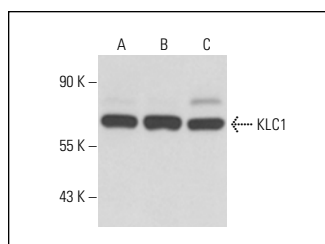
Molecular Weight of KLC1: 61 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, IMR-32 cell lysate: sc-2409 or SK-N-SH cell lysate: sc-2410.

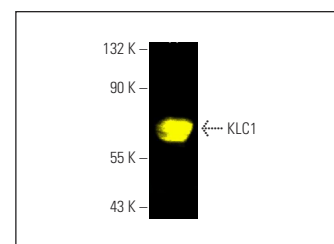
RECOMMENDED SUPPORT REAGENTS

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



KLC1 (L2): sc-58776. Western blot analysis of KLC1 expression in SK-N-SH (A), SH-SY5Y (B) and IMR-32 (C) whole cell lysates.



KLC1 (L2) Alexa Fluor® 488: sc-58776 AF488. Direct fluorescent western blot analysis of KLC1 expression in SK-N-SH whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Traina, G., et al. 2008. Up-regulation of kinesin light-chain 1 gene expression by acetyl-L-carnitine: therapeutic possibility in Alzheimer's disease. *Neurochem. Int.* 53: 244-247.
2. Paakkola, T., et al. 2018. Biallelic mutations in human NHLRC2 enhance myofibroblast differentiation in FINCA disease. *Hum. Mol. Genet.* 27: 4288-4302.
3. Hu, M., et al. 2019. Respiratory syncytial virus co-opts host mitochondrial function to favour infectious virus production. *Elife* 8: e42448.
4. Giovarelli, M., et al. 2020. Drp1 overexpression induces Desmin disassembling and drives kinesin-1 activation promoting mitochondrial trafficking in skeletal muscle. *Cell Death Differ.* 27: 2383-2401.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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