SANTA CRUZ BIOTECHNOLOGY, INC.

KLC1 (H-75): sc-25735

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The kinesin family of motor proteins comprise at least two forms of conventional kinesin (kinesin-I). They are encoded by different genes and designated ubiquitous kinesin, which is expressed in all cells and tissues, and neuronal kinesin, which is expressed exclusively in neuronal cells. Conventional kinesin 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 (KLC1) 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.

REFERENCES

1. Vignali, G., et al. 1997. Expression of neuronal kinesin heavy chain is developmentally regulated in the central nervous system of the rat. J. Neurochem. 69: 1840-1849.
2. Diefenbach, R.J., et al. 1998. The C-terminal region of the stalk domain of ubiquitous human kinesin heavy chain contains the binding site for kinesin light chain. Biochemistry 37: 16663-16670.

CHROMOSOMAL LOCATION

Genetic locus: KNS2 (human) mapping to 14q32.33; Kns2 (mouse) mapping to 12 F1.

SOURCE

KLC1 (H-75) is a rabbit polyclonal antibody raised against amino acids 495-569 of kinesin light chain 1 (KLC1) of human origin.

PRODUCT

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

APPLICATIONS

KLC1 (H-75) 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), immunohistochemistry (including paraffin-embedded sections) (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 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.

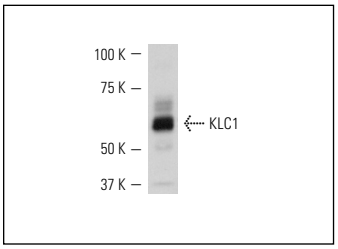
Molecular Weight of KLC1: 61 kDa.

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

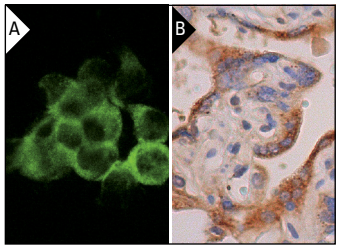
RECOMMENDED SECONDARY REAGENTS

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



KLC1 (H-75): sc-25735. Western blot analysis of KLC1 expression in IMR-32 whole cell lysate.



KLC1 (H-75): sc-25735. Immunofluorescence staining of methanol-fixed IMR-32 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Terada, S., et al. 2010. Kinesin-1/Hsc70-dependent mechanism of slow axonal transport and its relation to fast axonal transport. EMBO J. 29: 843-854.
2. Sun, F., et al. 2011. Sunday Driver/JIP3 binds kinesin heavy chain directly and enhances its motility. EMBO J. 30: 3416-3429.
3. Schneider, M., et al. 2011. Molecular mechanisms of centrosome and cytoskeleton anchorage at the nuclear envelope. Cell. Mol. Life Sci. 68: 1593-1610.

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.