SANTA CRUZ BIOTECHNOLOGY, INC.

KLC3 (F-6): sc-398492

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 five 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., et al. 1996. Sequence analysis of the ERCC2 gene regions in human, mouse, and hamster reveals three linked genes. Genomics 34: 399-409.
2. Rahman, A., et al. 1998. Two kinesin light chain genes in mice. Identification and characterization of the encoded proteins. J. Biol. Chem. 273: 15395-15403.
3. Rahman, A., et al. 1999. Defective kinesin heavy chain behavior in mouse kinesin light chain mutants. J. Cell Biol. 146: 1277-1288.
4. Junco, A., et al. 2001. Kinesin light-chain KLC3 expression in testis is restricted to spermatids. Biol. Reprod. 64: 1320-1330.
5. Ichimura, T., et al. 2002. Phosphorylation-dependent interaction of kinesin light chain 2 and the 14-3-3 protein. Biochemistry 41: 5566-5572.
6. Bhullar, B., et al. 2003. Association of kinesin light chain with outer dense fibers in a microtubule-independent fashion. J. Biol. Chem. 278: 16159-16168.

CHROMOSOMAL LOCATION

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

SOURCE

KLC3 (F-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 177-192 within an internal region of KLC3 of human 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.

Blocking peptide available for competition studies, sc-398492 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

KLC3 (F-6) is recommended for detection of KLC3 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).

KLC3 (F-6) is also recommended for detection of KLC3 in additional species, including bovine.

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

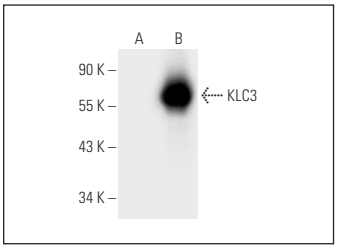
Molecular Weight of KLC3: 55 kDa.

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

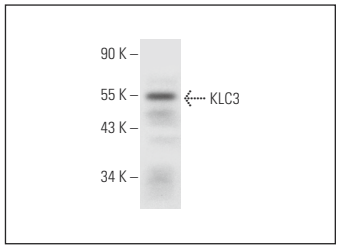
RECOMMENDED SUPPORT REAGENTS

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



KLC3 (F-6): sc-398492. Western blot analysis of KLC3 expression in non-transfected: sc-117752 (**A**) and mouse KLC3 transfected: sc-127046 (**B**) 293T whole cell lysates.



KLC3 (F-6): sc-398492. Western blot analysis of KLC3 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Rah, G., et al. 2022. KLC3 regulates ciliary trafficking and cyst progression in CILK1 deficiency-related polycystic kidney disease. J. Am. Soc. Nephrol. 33: 1726-1741.

RESEARCH USE

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