

## KLC3 (E-7): sc-398332

### 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

- 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.
- 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.
- Rahman, A., et al. 1999. Defective kinesin heavy chain behavior in mouse kinesin light chain mutants. *J. Cell Biol.* 146: 1277-1288.
- Junco, A., et al. 2001. Kinesin light-chain KLC3 expression in testis is restricted to spermatids. *Biol. Reprod.* 64: 1320-1330.

### CHROMOSOMAL LOCATION

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

### SOURCE

KLC3 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 171-192 within an internal region of KLC3 of human origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KLC3 (E-7) is available conjugated to agarose (sc-398332 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398332 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398332 PE), fluorescein (sc-398332 FITC), Alexa Fluor<sup>®</sup> 488 (sc-398332 AF488), Alexa Fluor<sup>®</sup> 546 (sc-398332 AF546), Alexa Fluor<sup>®</sup> 594 (sc-398332 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-398332 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-398332 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-398332 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398332 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

### APPLICATIONS

KLC3 (E-7) 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).

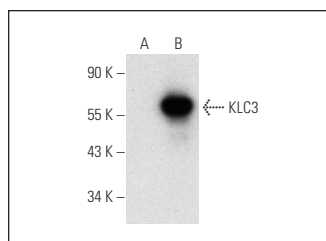
KLC3 (E-7) is also recommended for detection of KLC3 in additional species, including bovine.

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.

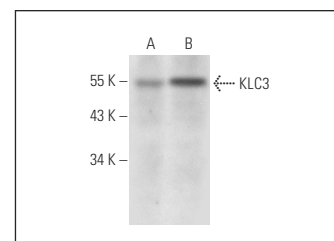
Molecular Weight of KLC3: 55 kDa.

Positive Controls: KLC3 (m): 293T Lysate: sc-127046, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

### DATA



KLC3 (E-7): sc-398332. Western blot analysis of KLC3 expression in non-transfected: sc-117752 (A) and mouse KLC3 transfected: sc-127046 (B) 293T whole cell lysates.



KLC3 (E-7): sc-398332. Western blot analysis of KLC3 expression in HeLa (A) and K-562 (B) whole cell lysates.

### SELECT PRODUCT CITATIONS

- Fustaino, V., et al. 2017. Characterization of epithelial-mesenchymal transition intermediate/hybrid phenotypes associated to resistance to EGFR inhibitors in non-small cell lung cancer cell lines. *Oncotarget* 8: 103340-103363.
- Zhang, J., et al. 2022. Tmprss12 functions in meiosis and spermiogenesis and is required for male fertility in mice. *Front. Cell Dev. Biol.* 10: 757042.

### 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](http://www.scbt.com) for detailed protocols and support products.