

## KIF3B (35): sc-136353

### 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. Members of the heterotrimeric kinesin II family of microtubule associated motors generally contain two different motor subunits from the KIF3 family, which includes KIF3A, B and C. KIF3 isoforms mediate anterograde transport of membrane bound organelles in neurons and melanosomes, transport between the endoplasmic reticulum and the Golgi, and transport of protein complexes within cilia and flagella required for their morphogenesis. The human KIF3B gene maps to chromosome 20 and encodes a 747-amino acid protein that is ubiquitously expressed. The KIF3B protein is essential for the left-right determination through a mechanism that produces a putative morphogen gradient along the left-right axis in the node.

### REFERENCES

1. Yamazaki, H., Nakata, T., Okada, Y. and Hirokawa, N. 1995. KIF3A/B: a heterodimeric kinesin superfamily protein that works as a microtubule plus end-directed motor for membrane organelle transport. *J. Cell Biol.* 130: 1387-1399.
2. Nonaka, S., Tanaka, Y., Okada, Y., Takeda, S., Harada, A., Kanai, Y., Kido, M. and Hirokawa, N. 1998. Randomization of left-right asymmetry due to loss of nodal cilia generating leftward flow of extraembryonic fluid in mice lacking KIF3B motor protein. *Cell* 95: 829-837.
3. Hamm-Alvarez, S.F. 1998. Molecular motors and their role in membrane traffic. *Adv. Drug Deliv. Rev.* 29: 229-242.
4. Cole, D.G. 1999. Kinesin-II, the heteromeric kinesin. *Cell. Mol. Life Sci.* 56: 217-226.
5. Hirokawa, N. 2000. Stirring up development with the heterotrimeric kinesin KIF3. *Traffic* 1: 29-34.
6. Yang Z., Xia C., Roberts, E.A., Bush, K., Nigam, S.K. and Goldstein, L.S. 2001. Molecular cloning and functional analysis of mouse C-terminal kinesin motor KIF3C. *Mol. Cell. Biol.* 21: 75-70.
7. Yang, Z., Roberts, E. A. and Goldstein, L.S. 2001. Functional analysis of mouse kinesin motor KIF3C. *Mol. Cell. Biol.* 21: 5306-5311.
8. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603060. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: Kif3b (mouse) mapping to 2 H1.

### SOURCE

KIF3B (35) is a mouse monoclonal antibody raised against amino acids 657-747 of KIF3B of mouse 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.

KIF3B (35) is available conjugated to agarose (sc-136353 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136353 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136353 PE), fluorescein (sc-136353 FITC), Alexa Fluor<sup>®</sup> 488 (sc-136353 AF488), Alexa Fluor<sup>®</sup> 546 (sc-136353 AF546), Alexa Fluor<sup>®</sup> 594 (sc-136353 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-136353 AF647), 200 µg/ml, for WB (RGB), IF and IHC(P); and to either Alexa Fluor<sup>®</sup> 680 (sc-136353 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-136353 AF790), 200 µg/ml, for Near-Infrared (NIR) WB and IF.

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### APPLICATIONS

KIF3B (35) is recommended for detection of KIF3B of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for KIF3B siRNA (m): sc-43377, KIF3B shRNA Plasmid (m): sc-43377-SH and KIF3B shRNA (m) Lentiviral Particles: sc-43377-V.

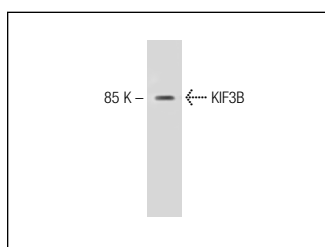
Molecular Weight of KIF3B: 85 kDa.

Positive Controls: RSV-3T3 whole cell lysate.

### 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<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

### DATA



KIF3B (35): sc-136353. Western blot analysis of KIF3B expression in RSV-3T3 whole cell lysate.

### 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.