SANTA CRUZ BIOTECHNOLOGY, INC.

KIF13B (6E11): sc-517181

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The Power to Question

BACKGROUND

KIF13B (kinesin family member 13B) is also known as kinesin-like protein GAKIN or GAKIN and is a 1,826 amino acid protein that is widely expressed in tissues, with highest expression in brain and kidney. KIF13B is localized to the cytoplasm, as well as to the cytoskeleton, and is thought to be a microtubule-dependent motor protein which is able to bind to a variety of proteins in order to traffic them to various locations throughout the cell. KIF13B belongs to the kinesin-like protein family and possesses three domains typical of the kinesin-like protein family, namely an N-terminal motor domain with an ATP-binding motif, an FHA domain which is known to bind diverse cargos and a large stalk domain involved in protein-protein binding. Additionally, KIF13B has a microtubule-interacting sequence which is known as the CAP-Gly domain at its C-terminus. The CAP-Gly domain is highly conserved domain among eukaryotes, and in humans, defects in the CAP-Gly domain are implicated in many diseases affecting the trafficking of vesicles, neuromuscular junctions and lysosome proliferation.

REFERENCES

1. Hanada, T., et al. 2000. GAKIN, a novel kinesin-like protein associates with the human homologue of the *Drosophila* discs large tumor suppressor in T lymphocytes. J. Biol. Chem. 275: 28774-28784.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607350. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Asaba, N., et al. 2003. Direct interaction with a kinesin-related motor mediates transport of mammalian discs large tumor suppressor homologue in epithelial cells. J. Biol. Chem. 278: 8395-8400.
4. Kanamarlapudi, V. 2005. Centaurin-α1 and KIF13B kinesin motor protein interaction in ARF6 signalling. Biochem. Soc. Trans. 33: 1279-1281.
5. Venkateswarlu, K., et al. 2005. Centaurin-α1 interacts directly with kinesin motor protein KIF13B. J. Cell Sci. 118: 2471-2484.
6. Horiguchi, K., et al. 2006. Transport of PIP3 by GAKIN, a kinesin-3 family protein, regulates neuronal cell polarity. J. Cell Biol. 174: 425-436.
7. Yamada, K.H., et al. 2007. The effector domain of human Dlg tumor suppressor acts as a switch that relieves autoinhibition of kinesin-3 motor GAKIN/KIF13B. Biochemistry 46: 10039-10045.
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CHROMOSOMAL LOCATION

Genetic locus: KIF13B (human) mapping to 8p12; Kif13b (mouse) mapping to 14 D1.

SOURCE

KIF13B (6E11) is a mouse monoclonal antibody raised against amino acids 1-100 representing partial length KIF13B of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

KIF13B (6E11) is recommended for detection of KIF13B 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for KIF13B siRNA (h): sc-77793, KIF13B siRNA (m): sc-146465, KIF13B shRNA Plasmid (h): sc-77793-SH, KIF13B shRNA Plasmid (m): sc-146465-SH, KIF13B shRNA (h) Lentiviral Particles: sc-77793-V and KIF13B shRNA (m) Lentiviral Particles: sc-146465-V.

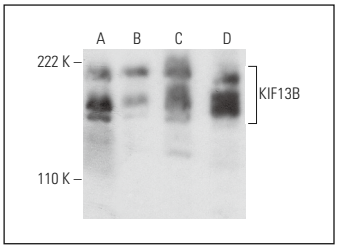
Molecular Weight of KIF13B: 200 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Caki-1 cell lysate: sc-2224 or IMR-32 cell lysate: sc-2409.

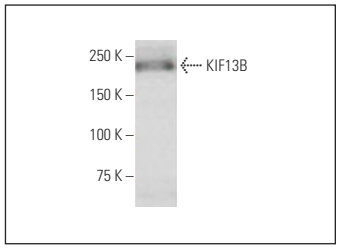
RECOMMENDED SUPPORT REAGENTS

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).

DATA



KIF13B (6E11): sc-517181. Western blot analysis of KIF13B expression in HeLa nuclear extract (**A**) and Caki-1 (**B**), IMR-32 (**C**) and EOC 20 (**D**) whole cell lysates.



KIF13B (6E11): sc-517181. Western blot analysis of KIF13B expression in HeLa S3 nuclear extract.

SELECT PRODUCT CITATIONS

1. Birdsall, V., et al. 2022. Axonal transport of Hrs is activity dependent and facilitates synaptic vesicle protein degradation. Life Sci. Alliance 5: e202000745.

STORAGE

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