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KIF13A (m): 293T Lysate: sc-178841

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. Kinesins also play crucial roles in cell division, intracellular transport and membrane trafficking events including endocytosis and transcytosis. KIF13A, a novel plus end-directed microtubule-dependent motor protein, belongs to the unc-104/KIF1A kinesin subfamily and represents the orthologue of *Drosophila* kinesin-73. KIF13A has several alternative transcripts, which are differentially expressed in human tissues. KIF13A associates with β 1-adaptin, a subunit of the AP-1 adaptor complex. Transmembrane receptors and some membrane-bound proteins are postulated to bind KIFs to cargo vesicles. KIF13A associates with cargo vesicles that contain AP-1 and mannose-6-phosphate receptor (M6PR). KIF13A transports M6PR-containing vesicles and targets M6PR from the *trans*-Golgi network to the plasma membrane via a direct interaction with the AP-1 adaptor complex. Overexpression of KIF13A results in mislocalization of AP-1 and M6PR, and functional blocking of KIF13A reduces M6PR cell surface expression. KIF13A is also found to have significant linkage to schizophrenia.

REFERENCES

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2. Cole, D.G. 1999. Kinesin-II, the heteromeric kinesin. *Cell. Mol. Life Sci.* 56: 217-226.
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4. 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 KIFC3. *Mol. Cell. Biol.* 21: 765-770.
5. Jamain S., Quach, H., Fellous, M. and Bourgeron, T. 2001. Identification of the human KIF13A gene homologous to *Drosophila* kinesin-73 and candidate for schizophrenia. *Genomics* 74: 36-44.

CHROMOSOMAL LOCATION

Genetic locus: Kif13a (mouse) mapping to 13 A5.

PRODUCT

KIF13A (m): 293T Lysate represents a lysate of mouse KIF13A transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

KIF13A (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive KIF13A antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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