

KIF21B (E-13): sc-103579

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. KIF21B (kinesin family member 21B) is a 1637 amino acid protein that contains one kinesin-motor domain, which is responsible for the ATP-dependent movement of KIF21B across microtubules, and 7 WD repeats, which may be involved in binding to cargoes. KIF21B is highly localized in dendrites and therefore, involved in neuronal dendritic transport. The gene encoding human KIF21B maps to chromosome 1q32.1, the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. Notably, the rare aging disease Hutchinson-Gilford progeria, Stickler syndrome, Parkinsons, Gaucher disease, familial adenomatous polyposis and Usher syndrome are associated with chromosome 1. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Vallee, R.B. and Shpetner, H.S. 1990. Motor proteins of cytoplasmic microtubules. *Annu. Rev. Biochem.* 59: 909-932.
2. Endow, S.A. 1991. The emerging kinesin family of microtubule motor proteins. *Trends Biochem. Sci.* 16: 221-225.
3. Brady, S.T. 1995. A kinesin medley: biochemical and functional heterogeneity. *Trends Cell Biol.* 5: 159-164.
4. Marszalek, J.R., Weiner, J.A., Farlow, S.J., Chun, J. and Goldstein, L.S. 1999. Novel dendritic kinesin sorting identified by different process targeting of two related kinesins: KIF21A and KIF21B. *J. Cell Biol.* 145: 469-479.
5. Miki, H., Setou, M., Kaneshiro, K. and Hirokawa, N. 2001. All kinesin superfamily protein, KIF, genes in mouse and human. *Proc. Natl. Acad. Sci. USA* 98: 7004-7011.
6. Weise, A., Starke, H., Mrasek, K., Claussen, U. and Liehr, T. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
7. Marzin, Y., Jamet, D., Douet-Guilbert, N., Morel, F., Le Bris, M.J., Morice, P., Abgrall, J.F., Berthou, C. and De Braekeleer, M. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
8. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.

CHROMOSOMAL LOCATION

Genetic locus: KIF21B (human) mapping to 1q32.1; Kif21b (mouse) mapping to 1 E4.

SOURCE

KIF21B (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KIF21B of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103579 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KIF21B (E-13) is recommended for detection of KIF21B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for KIF21B siRNA (h): sc-78790, KIF21B siRNA (m): sc-105595, KIF21B shRNA Plasmid (h): sc-78790-SH, KIF21B shRNA Plasmid (m): sc-105595-SH, KIF21B shRNA (h) Lentiviral Particles: sc-78790-V and KIF21B shRNA (m) Lentiviral Particles: sc-105595-V.

Molecular Weight of KIF21B: 178 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.


 MONOS
Satisfation
Guaranteed

Try **KIF21B (4C12): sc-517174**, our highly recommended monoclonal alternative to KIF21B (E-13).