

KIF2A (D-7): sc-398010

BACKGROUND

Kinesin is a cytoskeletal motor protein involved in axonal transport and cell division. The kinesin superfamily proteins (KIFs) are motor proteins that transport vesicles important for axonal extension in developing neurons, such as macromolecules and membranous organelles, along microtubules. KIFs are involved in neuronal function and development. Kinesin heavy chain member 2A (KIF2A), also designated KNS2, is a microtubule-associated central type motor protein and belongs to the kinesin-like protein family. KIF2A is abundantly present in developing axons. The synthetic retinoid N-(4-hydroxyphenyl)-all-*trans*-retinamide HPR, a cancer chemopreventive agent *in vivo* and an apoptotic cell death inducer *in vitro*, regulates KIF2A.

REFERENCES

1. Debernardi, S., et al. 1997. Identification of a novel human kinesin-related gene (HK2) by the cDNA differential display technique. *Genomics* 42: 67-73.
2. Morfini, G., et al. 1997. Suppression of KIF2 in PC12 cells alters the distribution of a growth cone nonsynaptic membrane receptor and inhibits neurite extension. *J. Cell Sci.* 138: 657-669.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602591. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Homma, N., et al. 2003. Kinesin superfamily protein 2A (KIF2A) functions in suppression of collateral branch extension. *Cell* 114: 229-239.
5. Hirokawa, N. and Takemura, R. 2004. Kinesin superfamily proteins and their various functions and dynamics. *Exp. Cell Res.* 301: 50-59.

CHROMOSOMAL LOCATION

Genetic locus: KIF2A (human) mapping to 5q12.1; Kif2a (mouse) mapping to 13 D2.1.

SOURCE

KIF2A (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 86-121 near the N-terminus of KIF2A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398010 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

KIF2A (D-1) is recommended for detection of KIF2A 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), immunohistochemistry (including paraffin-embedded sections) (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 KIF2A siRNA (h): sc-60884, KIF2A siRNA (m): sc-60885, KIF2A shRNA Plasmid (h): sc-60884-SH, KIF2A shRNA Plasmid (m): sc-60885-SH, KIF2A shRNA (h) Lentiviral Particles: sc-60884-V and KIF2A shRNA (m) Lentiviral Particles: sc-60885-V.

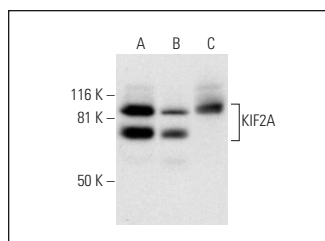
Molecular Weight of KIF2A: 80 kDa.

Positive Controls: H4 cell lysate: sc-2408, SK-N-MC cell lysate: sc-2237 or T98G cell lysate: sc-2294.

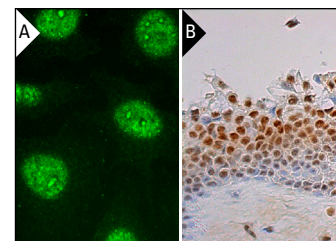
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



KIF2A (D-7): sc-398010. Western blot analysis of KIF2A expression in SK-N-MC (A), T98G (B) and H4 (C) whole cell lysates.



KIF2A (D-7): sc-398010. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing nuclear staining of respiratory epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Zhu, Y., et al. 2021. Circular RNA circ_0010235 sponges miR-338-3p to play oncogenic role in proliferation, migration and invasion of non-small-cell lung cancer cells through modulating KIF2A. *Ann. Med.* 53: 693-706.

RESEARCH USE

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