

# KIF2A (D-7): sc-271471

## 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  $\delta$  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/>

## CHROMOSOMAL LOCATION

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

## SOURCE

KIF2A (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 528-569 near the C-terminus of KIF2A of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KIF2A (D-7) is available conjugated to agarose (sc-271471 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271471 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271471 PE), fluorescein (sc-271471 FITC), Alexa Fluor® 488 (sc-271471 AF488), Alexa Fluor® 546 (sc-271471 AF546), Alexa Fluor® 594 (sc-271471 AF594) or Alexa Fluor® 647 (sc-271471 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271471 AF680) or Alexa Fluor® 790 (sc-271471 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271471 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

KIF2A (D-7) 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  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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 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.

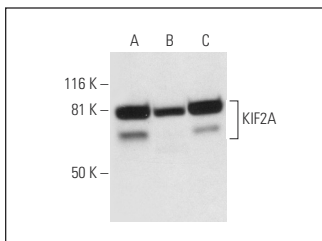
Molecular Weight of KIF2A: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

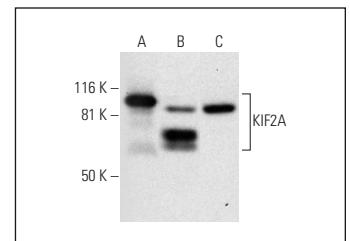
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



KIF2A (D-7): sc-271471. Western blot analysis of KIF2A expression in HeLa (A), Hep G2 (B) and NIH/3T3 (C) whole cell lysates.



KIF2A (D-7): sc-271471. Western blot analysis of KIF2A expression in mouse brain tissue extract (A) and SK-N-MC (B) and H4 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Dühorn, A., et al. 2019. siRNA electroporation to modulate autophagy in herpes simplex virus type 1-infected monocyte-derived dendritic cells. *J. Vis. Exp.* E-published.
2. Bufo, A., et al. 2021. Wnt signaling recruits KIF2A to the spindle to ensure chromosome congression and alignment during mitosis. *Proc. Natl. Acad. Sci. USA* 118: e2108145118.

## RESEARCH USE

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