

KIF12 (C-4): sc-376572

BACKGROUND

Kinesin is a cytoskeletal motor protein involved in axonal transport and cell division. The kinesin superfamily proteins (KIFs) are microtubule-dependent molecular motors that transport membranous organelles and protein complexes in a microtubule- and ATP-dependent manner. Cells use KIFs to tightly control the direction, destination, and speed of transportation of a variety of important functional molecules, including mRNA. KIFs are involved in neuronal function and development. Kinesin family member 12 (KIF12) is a kinesin-like 651-amino-acid protein which is involved in mitotically linked cytokinesis. KIF12 is required during mitosis for normal myosin II localization and during late anaphase and telophase for normal nuclear separation. The KIF12 gene consists of a KISc domain, a coiled-coil domain with an internal hinge region and a C-terminal tail domain. KIF12 mRNA is expressed in fetal liver, adult brain, pancreatic islet, kidney tumors, and uterine and pancreatic cancers.

REFERENCES

- Howard, J. 1996. The movement of kinesin along microtubules. *Annu. Rev. Physiol.* 58: 703-729.
- Miki, H., et al. 2001. All kinesin superfamily protein, KIF, genes in mouse and human. *Proc. Natl. Acad. Sci. USA* 98: 7004-7011.
- Mburu, P., et al. 2003. Defects in Whirlin, a PDZ domain molecule involved in stereocilia elongation, cause deafness in the whirler mouse and families with DFNB31. *Nat. Genet.* 34: 421-428.
- Lakshminanth, G.S., et al. 2004. A mitotic kinesin-like protein required for normal karyokinesis, Myosin localization to the furrow, and cytokinesis in *Dictyostelium*. *Proc. Natl. Acad. Sci. USA* 101: 16519-16524.
- Mrug, M., et al. 2005. Kinesin family member 12 is a candidate polycystic kidney disease modifier in the cpk mouse. *J. Am. Soc. Nephrol.* 16: 905-916.

CHROMOSOMAL LOCATION

Genetic locus: KIF12 (human) mapping to 9q32; Kif12 (mouse) mapping to 4 B3.

SOURCE

KIF12 (C-4) is a mouse monoclonal antibody raised against amino acids 352-642 mapping at the C-terminus of KIF12 of mouse 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.

KIF12 (C-4) is available conjugated to agarose (sc-376572 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376572 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376572 PE), fluorescein (sc-376572 FITC), Alexa Fluor® 488 (sc-376572 AF488), Alexa Fluor® 546 (sc-376572 AF546), Alexa Fluor® 594 (sc-376572 AF594) or Alexa Fluor® 647 (sc-376572 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376572 AF680) or Alexa Fluor® 790 (sc-376572 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

KIF12 (C-4) is recommended for detection of KIF12 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for KIF12 siRNA (h): sc-60880, KIF12 siRNA (m): sc-60881, KIF12 shRNA Plasmid (h): sc-60880-SH, KIF12 shRNA Plasmid (m): sc-60881-SH, KIF12 shRNA (h) Lentiviral Particles: sc-60880-V and KIF12 shRNA (m) Lentiviral Particles: sc-60881-V.

Molecular Weight (predicted) of KIF12: 70 kDa.

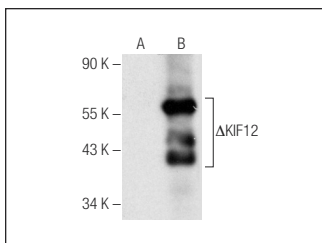
Molecular Weight (observed) of KIF12: 70-85 kDa.

Positive Controls: KIF12 (h): 293T Lysate: sc-111091, RIN-m5F whole cell lysate: sc-364792 or MIA PaCa-2 cell lysate: sc-2285.

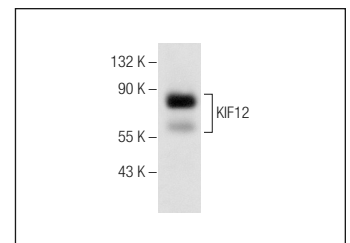
RECOMMENDED SUPPORT REAGENTS

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.

DATA



KIF12 (C-4): sc-376572. Western blot analysis of KIF12 expression in non-transfected: sc-117752 (A) and truncated human KIF12 transfected: sc-111091 (B) 293T whole cell lysates.



KIF12 (C-4): sc-376572. Western blot analysis of KIF12 expression in RIN-m5F whole cell lysate.

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.