

KIF14 (E-3): sc-365553

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 14 (KIF14) is an over-expressed potential oncogene in the 1q region of genomic gain in breast cancer cell lines associated with poor prognosis breast cancer. The gain of chromosome 1q likely reflects oncogene amplification. KIF14 is a potential therapeutic target and indicator of oncogenesis.

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.
- Corson, T.W., et al. 2005. KIF14 is a candidate oncogene in the 1q minimal region of genomic gain in multiple cancers. *Oncogene* 24: 4741-4753.

CHROMOSOMAL LOCATION

Genetic locus: KIF14 (human) mapping to 1q32.1; Kif14 (mouse) mapping to 1 E4.

SOURCE

KIF14 (E-3) is a mouse monoclonal antibody raised against amino acids 1141-1380 mapping within an internal region of KIF14 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KIF14 (E-3) is available conjugated to agarose (sc-365553 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365553 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365553 PE), fluorescein (sc-365553 FITC), Alexa Fluor[®] 488 (sc-365553 AF488), Alexa Fluor[®] 546 (sc-365553 AF546), Alexa Fluor[®] 594 (sc-365553 AF594) or Alexa Fluor[®] 647 (sc-365553 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365553 AF680) or Alexa Fluor[®] 790 (sc-365553 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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

KIF14 (E-3) is recommended for detection of KIF14 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 KIF14 siRNA (h): sc-60882, KIF14 siRNA (m): sc-60883, KIF14 shRNA Plasmid (h): sc-60882-SH, KIF14 shRNA Plasmid (m): sc-60883-SH, KIF14 shRNA (h) Lentiviral Particles: sc-60882-V and KIF14 shRNA (m) Lentiviral Particles: sc-60883-V.

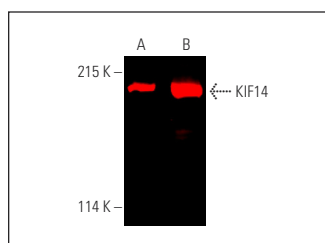
Molecular Weight of KIF14: 186 kDa.

Positive Controls: human eye extract: sc-364223 or mouse eye extract: sc-364241.

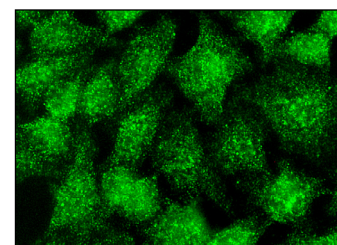
RECOMMENDED SUPPORT REAGENTS

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



KIF14 (E-3): sc-365553. Near-Infrared western blot analysis of KIF14 expression in mouse eye (A) and human eye (B) tissue extracts. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



KIF14 (E-3): sc-365553. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Singel, S.M., et al. 2014. KIF14 promotes Akt phosphorylation and contributes to chemoresistance in triple-negative breast cancer. *Neoplasia* 16: 247-256, 256.e2.
- Kliza, K.W., et al. 2021. Reading ADP-ribosylation signaling using chemical biology and interaction proteomics. *Mol. Cell* 81: 4552-4567.e8.

RESEARCH USE

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