

KIF14 (H-240): sc-134591

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 overexpressed 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., 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.
- Mburu, P., Mustapha, M., Varela, A., Weil, D., El-Amraoui, A., Holme, R.H., Rump, A., Hardisty, R.E., Blanchard, S., Coimbra, R.S., Perfettini, I., Parkinson, N., Mallon, A.M., Glenister, P., Rogers, M.J., Paige, A.J., et al. 2003. Defects in Whirlin, a PDZ domain molecule involved in stereocilia elongation, cause deafness in the whirler mouse and families with DFNB31. *Natl. Genet.* 34: 421-428.
- Zhu, C., Zhao, J., Bibikova, M., Levenson, J.D., Bossy-Wetzel, E., Fan, J.B., Abraham, R.T. and Jiang, W. 2005. Functional analysis of human microtubule-based motor proteins, the kinesins and dyneins, in mitosis/cytokinesis using RNA interference. *Mol. Biol. Cell* 16: 3187-3199.
- Corson, T.W., Huang, A., Tsao, M.S. and Gallie, B.L. 2005. KIF14 is a candidate oncogene in the 1q minimal region of genomic gain in multiple cancers. *Oncogene* 24: 4741-4753.
- Corson, T.W. and Gallie, B.L. 2006. KIF14 mRNA expression is a predictor of grade and outcome in breast cancer. *Int. J. Cancer* 119: 1088-1094.

CHROMOSOMAL LOCATION

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

SOURCE

KIF14 (H-240) is a rabbit polyclonal antibody raised against amino acids 1141-1380 mapping within an internal region of KIF14 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.

RESEARCH USE

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

APPLICATIONS

KIF14 (H-240) is recommended for detection of KIF14 of mouse and human origin by Western Blotting (starting dilution 1:200, 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).

KIF14 (H-240) is also recommended for detection of KIF14 in additional species, including canine.

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.

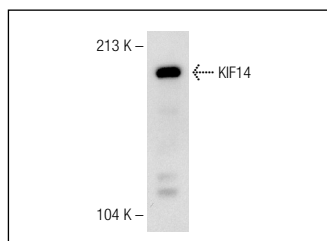
Molecular Weight of KIF14: 186 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KIF14 (H-240): sc-134591. Western blot analysis of KIF14 expression in MCF7 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.



Try **KIF14 (E-3): sc-365553**, our highly recommended monoclonal alternative to KIF14 (H-240).