

KIF2C (N-14): sc-30276

BACKGROUND

Kinesin family member 2c (KIF2C), alternately known as mitotic centromere-associated kinesin (MCAK), is a member of the kinesin-like family of proteins. KIF2C is a cytoplasmic and nuclear protein, present throughout the cell cycle. KIF2C associates with the centromere early in prophase, and disassociates after telophase. KIF2C is abundant in thymus and testis, and present at lower levels in small intestine, the mucosal lining of the colon, and placenta. Human KIF2C maps to chromosome 1p34.1.

REFERENCES

- Kim, I.G., Jun, D.Y., Sohn, U. and Kim, Y.H. 1997. Cloning and expression of human mitotic centromere-associated kinesin gene. *Biochim. Biophys. Acta* 1359: 181-186.
- Maney, T., Hunter, A.W., Wagenbach, M. and Wordeman, L. 1998. Mitotic centromere-associated kinesin is important for anaphase chromosome segregation. *J. Cell Biol.* 3: 787-801.
- Hunter, A.W., Caplow, M., Coy, D.L., Hancock, W.O., Diez, S., Wordeman, L. and Howard, J. 2003. The kinesin-related protein MCAK is a microtubule depolymerase that forms an ATP-hydrolyzing complex at microtubule ends. *Mol. Cell* 11: 445-457.
- Kline-Smith, S.L., Khodjakov, A., Hergert, P. and Walczak, C.E. 2004. Depletion of centromeric MCAK leads to chromosome congression and segregation defects due to improper kinetochore attachments. *Mol. Biol. Cell* 15: 1146-1159.
- Moore, A.T., Rankin, K.E., von Dassow, G., Peris, L., Wagenbach, M., Ovechkina, Y., Andrieux, A., Job, D. and Wordeman, L. 2005. MCAK associates with the tips of polymerizing microtubules. *J. Cell Biol.* 169: 391-397.
- Manning, A.L., Ganem, N.J., Bakhoun, S.F., Wagenbach, M., Wordeman, L. and Compton, D.A. 2007. The kinesin-13 proteins KIF2A, KIF2B, and KIF2C/MCAK have distinct roles during mitosis in human cells. *Mol. Biol. Cell* 18: 2970-2979.
- Wordeman, L., Wagenbach, M. and von Dassow, G. 2007. MCAK facilitates chromosome movement by promoting kinetochore microtubule turnover. *J. Cell Biol.* 179: 869-879.
- Lee, T., Langford, K.J., Askham, J.M., Brüning-Richardson, A. and Morrison, E.E. 2008. MCAK associates with EB1. *Oncogene* 27: 2494-2500.
- Shimo, A., Tanikawa, C., Nishidate, T., Lin, M.L., Matsuda, K., Park, J.H., Ueki, T., Ohta, T., Hirata, K., Fukuda, M., Nakamura, Y. and Katagiri, T. 2008. Involvement of kinesin family member 2C/mitotic centromere-associated kinesin overexpression in mammary carcinogenesis. *Cancer Sci.* 99: 62-70.

CHROMOSOMAL LOCATION

Genetic locus: KIF2C (human) mapping to 1p34.1; Kif2c (mouse) mapping to 4 D1.

SOURCE

KIF2C (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of KIF2C 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.

Blocking peptide available for competition studies, sc-30276 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KIF2C (N-14) is recommended for detection of KIF2C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

KIF2C (N-14) is also recommended for detection of KIF2C in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for KIF2C siRNA (h): sc-105596, KIF2C siRNA (m): sc-146476, KIF2C shRNA Plasmid (h): sc-105596-SH, KIF2C shRNA Plasmid (m): sc-146476-SH, KIF2C shRNA (h) Lentiviral Particles: sc-105596-V and KIF2C shRNA (m) Lentiviral Particles: sc-146476-V.

Molecular Weight of KIF2C isoforms: 75/81 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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