SANTA CRUZ BIOTECHNOLOGY, INC.

KIF2C (2488C3a): sc-81305

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. Kim, I.G., et al. 1997. Cloning and expression of human mitotic centromere-associated kinesin gene. Biochim. Biophys. Acta 1359: 181-186.
2. Maney, T., et al. 1998. Mitotic centromere-associated kinesin is important for anaphase chromosome segregation. J. Cell Biol. 3: 787-801.
3. Hunter, A.W., et al. 2003. The kinesin-related protein MCAK is a microtubule depolymerase that forms an ATP-hydrolyzing complex at microtubule ends. Mol. Cell 11: 445-457.
4. Kline-Smith, S.L., et al. 2004. Depletion of centromeric MCAK leads to chromosome congression and segregation defects due to improper kinetochore attachments. Mol. Biol. Cell 15: 1146-1159.

CHROMOSOMAL LOCATION

Genetic locus: KIF2C (human) mapping to 1p34.1.

SOURCE

KIF2C (2488C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the N-terminus of KIF2C of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

KIF2C (2488C3a) is recommended for detection of KIF2C of 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 flow cytometry (1 µg per 1 x 10^6 cells).

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

Molecular Weight of KIF2C isoforms: 75/81 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Ramos cell lysate: sc-2216.

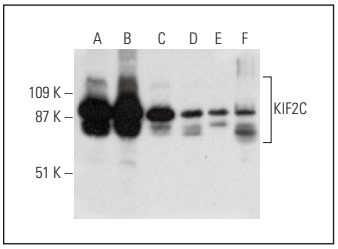
RESEARCH USE

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

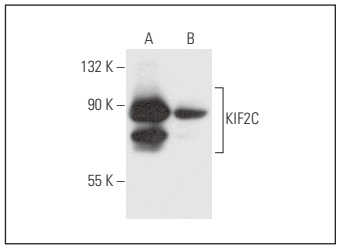
STORAGE

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

DATA



KIF2C (2488C3a): sc-81305. Western blot analysis of KIF2C expression in HeLa (**A**), Jurkat (**B**), A-431 (**C**), Hep G2 (**D**) and MCF7 (**E**) whole cell lysates and human testis tissue extract (**F**).



KIF2C (2488C3a): sc-81305. Western blot analysis of KIF2C expression in K-562 (**A**) and Ramos (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ritter, A., et al. 2015. The activity regulation of the mitotic centromere-associated kinesin by Polo-like kinase 1. Oncotarget 6: 6641-6655.
2. Steinhäuser, K., et al. 2017. Deficiency of RITA results in multiple mitotic defects by affecting microtubule dynamics. Oncogene 36: 2146-2159.
3. Elliott, B., et al. 2019. Essential role of JunD in cell proliferation is mediated via Myc signaling in prostate cancer cells. Cancer Lett. 448: 155-167.
4. Ma, H., et al. 2019. Super-enhancer-associated hub genes in chronic myeloid leukemia identified using weighted gene co-expression network analysis. Cancer Manag. Res. 11: 10705-10718.
5. Zhu, S., et al. 2020. Kinesin KIF2C in regulation of DNA double strand break dynamics and repair. Elife 9: e53402.
6. Lv, Q., et al. 2020. RNA-binding protein SORBS2 suppresses clear cell renal cell carcinoma metastasis by enhancing MTUS1 mRNA stability. Cell Death Dis. 11: 1056.
7. Wei, S., et al. 2021. KIF2C: a novel link between Wnt/β-catenin and mTORC1 signaling in the pathogenesis of hepatocellular carcinoma. Protein Cell 12: 788-809.
8. Jiang, C.F., et al. 2021. TBX15/miR-152/KIF2C pathway regulates breast cancer doxorubicin resistance via promoting PKM2 ubiquitination. Cancer Cell Int. 21: 542.
9. Dema, A., et al. 2023. Growth cone advance requires EB1 as revealed by genomic replacement with a light-sensitive variant. Elife 12: e84143.

PROTOCOLS

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