SANTA CRUZ BIOTECHNOLOGY, INC.

Chfr (L2): sc-81832

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The forkhead-associated (FHA) domain was initially identified in transcription factors that have forkhead DNA-binding domains and in protein kinases, but many cell-cycle checkpoint proteins, including Chfr (checkpoint with forkhead and RING finger domains) contain FHA domains. Chfr defines a checkpoint that delays entry into metaphase in response to mitotic stress. Normal primary cells and tumor cell lines that express wildtype Chfr exhibit delayed entry into metaphase when centrosome separation is inhibited by mitotic stress. Additionally, Chfr seems to be required for delaying prophase in human cells. The sequence of Chfr is similar to that of the fission yeast DMA1, which is involved in a later mitotic checkpoint that delays the exit of a cell from mitosis in response to spindle damage.

REFERENCES

1. Jha, M.N., et al. 1994. Cell cycle arrest by colcemid differs in human normal and tumor cells. Cancer Res. 54: 5011-5015.
2. Hofmann, K., et al. 1995. The FHA domain: a putative nuclear signalling domain found in protein kinases and transcription factors. Trends Biochem. Sci. 20: 347-349.
3. Murone, M., et al. 1996. The fission yeast DMA1 gene is a component of the spindle assembly checkpoint, required to prevent septum formation and premature exit from mitosis if spindle function is compromised. EMBO J. 15: 6605-6616.
4. Cortez, D., et al. 2000. Conducting the mitotic symphony. Nature 406: 354-356.
5. Scolnick, D.M., et al. 2000. Chfr defines a mitotic stress checkpoint that delays entry into metaphase. Nature 406: 430-435.
6. Tokunaga, E., et al. 2006. Aberrant hypermethylation of the promoter region of the Chfr gene is rare in primary breast cancer. Breast Cancer Res. Treat. 97: 199-203.
7. Kobayashi, C., et al. 2006. Aberrant expression of Chfr in malignant peripheral nerve sheath tumors. Mod. Pathol. 19: 524-532.
8. Koga, Y., et al. 2006. The significance of aberrant CHFR methylation for clinical response to microtubule inhibitors in gastric cancer. J. Gastroenterol. 41: 133-139.
9. Yanokura, M., et al. 2007. Relationship of aberrant DNA hypermethylation of Chfr with sensitivity to taxanes in endometrial cancer. Oncol. Rep. 17: 41-48.

CHROMOSOMAL LOCATION

Genetic locus: CHFR (human) mapping to 12q24.33.

SOURCE

Chfr (L2) is a mouse monoclonal antibody raised against recombinant Chfr of human origin.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

Chfr (L2) is recommended for detection of Chfr of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 Chfr siRNA (h): sc-37567, Chfr shRNA Plasmid (h): sc-37567-SH and Chfr shRNA (h) Lentiviral Particles: sc-37567-V.

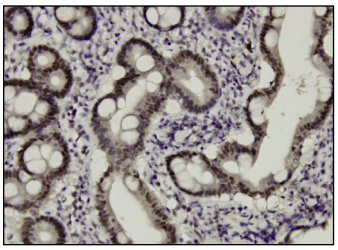
Molecular Weight of Chfr isoforms: 73/72/69/64 kDa.

Positive Controls: ES-2 cell lysate: sc-24674.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Chfr (L2): sc-81832. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small intestine tissue showing nuclear localization.

STORAGE

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

PROTOCOLS

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