

CACUL1 (m): 293T Lysate: sc-117954

BACKGROUND

CACUL1 (CDK2-associated, cullin domain 1), also known as C10orf46 (chromosome 10 open reading frame 46) or CAC1 (Cdk-associated cullin1), is a 369 amino acid protein that belongs to the cullin family and exists as three alternatively spliced isoforms. CACUL1 is a cell cycle protein that promotes cell proliferation thorough CDK2 activation at the G₁/S transition. Changes in expression are observed during the cell cycle with high expression in G₁/S, low expression in mid S phase, and return to high expression in G₂/S. CACUL1 is ubiquitously expressed with highest expression in large intestine, mammary gland, cancerous tissue and cancer cell lines. The gene encoding CACUL1 maps to human chromosome 10q26.11. Spanning nearly 135 million base pairs, chromosome 10 makes up approximately 4.5% of total DNA in cells and encodes nearly 1,200 genes. Several protein-coding genes, including those that encode for chemokines, cadherins, excision repair proteins, early growth response factors (Egrs) and fibroblast growth receptors (FGFRs), are located on chromosome 10. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Jabs, E.W., et al. 1994. Jackson-Weiss and Crouzon syndromes are allelic with mutations in fibroblast growth factor receptor 2. *Nat. Genet.* 8: 275-279.
2. Deloukas, P., et al. 2000. Report of the third international workshop on human chromosome 10 mapping and sequencing 1999. *Cytogenet. Cell Genet.* 90: 1-12.
3. Gilbert, F. 2001. Chromosome 10. *Genet. Test.* 5: 69-82.
4. Berger, P., et al. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. *Neurogenetics* 4: 1-15.
5. Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. *Am. J. Hum. Genet.* 81: 756-767.
6. Cho, M.Y., et al. 2008. First report of ovarian dysgerminoma in Cowden syndrome with germline PTEN mutation and PTEN-related 10q loss of tumor heterozygosity. *Am. J. Surg. Pathol.* 32: 1258-1264.
7. Yin, Y. and Shen, W.H. 2008. PTEN: a new guardian of the genome. *Oncogene* 27: 5443-5453.
8. Laugel, V., et al. 2010. Mutation update for the CSB/ERCC6 and CSA/ERCC8 genes involved in Cockayne syndrome. *Hum. Mutat.* 31: 113-126.
9. Kong, Y., et al. 2009. Identification and characterization of CAC1 as a novel Cdk2-associated cullin. *Cell Cycle* 8: 3552-3561.

CHROMOSOMAL LOCATION

Genetic locus: Cacul1 (mouse) mapping to 19 D3.

PRODUCT

CACUL1 (m): 293T Lysate represents a lysate of mouse CACUL1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

CACUL1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CACUL1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.