

GRAMD4 (h2): 293T Lysate: sc-369187

BACKGROUND

The gene encoding GRAMD4 (GRAM domain-containing protein 4) maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. GRAMD4, also designated death-inducing protein (DIP), is a 578 amino acid mitochondrial membrane protein that acts as an essential mediator of the p53-independent E2F-1 death pathway, which is frequently found to be deregulated in several types of cancers. Overexpression of GRAMD4 results in a strong apoptotic response involving caspase-3 activation and cleavage of poly(ADP-ribose)-polymerase. GRAMD4 is expressed in lung and in primary lung squamous cell carcinoma (LSCC) and shows up-regulation in mitochondria by E2F-1 after addition of 4-hydroxytamoxifen. This evidence suggests that GRAMD4 may be a potential target for cancer therapies. There are two isoforms of GRAMD4 which are produced as a result of alternative splicing events.

REFERENCES

- Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 22. Genet. Test.* 2: 89-97.
- Schwab, S.G. and Wildenauer, D.B. 1999. Chromosome 22 workshop report. *Am. J. Med. Genet.* 88: 276-278.
- Tsilchorazidou, T., Menko, F.H., Laloo, F., Kidd, A., De Silva, R., Thomas, H., Smith, P., Malcolmson, A., Dore, J., Madan, K., Brown, A., Yovos, J.G., Tsaligopoulos, M., Vogiatzis, N., Baser, M.E., Wallace, A.J. and Evans, D.G. 2004. Constitutional rearrangements of chromosome 22 as a cause of neurofibromatosis 2. *J. Med. Genet.* 41: 529-534.
- Stanelle, J., Tu-Rapp, H. and Pützer, B.M. 2005. A novel mitochondrial protein DIP mediates E2F1-induced apoptosis independently of p53. *Cell Death Differ.* 12: 347-357.
- Arinami, T. 2006. Analyses of the associations between the genes of 22q11 deletion syndrome and schizophrenia. *J. Hum. Genet.* 51: 1037-1045.
- Paylor, R., Glaser, B., Mupo, A., Ataliotis, P., Spencer, C., Sobotka, A., Sparks, C., Choi, C.H., Oghalai, J., Curran, S., Murphy, K.C., Monks, S., Williams, N., O'Donovan, M.C., Owen, M.J., Scambler, P.J. and Lindsay, E. 2006. Tbx1 haploinsufficiency is linked to behavioral disorders in mice and humans: implications for 22q11 deletion syndrome. *Proc. Natl. Acad. Sci. USA* 103: 7729-7734.
- Zheng, X., Güller, S., Beissert, T., Puccetti, E. and Ruthardt, M. 2006. BCR and its mutants, the reciprocal t(9;22)-associated ABL/BCR fusion proteins, differentially regulate the cytoskeleton and cell motility. *BMC Cancer* 6: 262.
- Ahronowitz, I., Xin, W., Kiely, R., Sims, K., MacCollin, M. and Nunes, F.P. 2007. Mutational spectrum of the NF2 gene: a meta-analysis of 12 years of research and diagnostic laboratory findings. *Hum. Mutat.* 28: 1-12.
- Hay, B.N. 2007. Deletion 22q11: spectrum of associated disorders. *Semin. Pediatr. Neurol.* 14: 136-139.

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.

CHROMOSOMAL LOCATION

Genetic locus: GRAMD4 (human) mapping to 22q13.31.

PRODUCT

GRAMD4 (h2): 293T Lysate represents a lysate of human GRAMD4 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

GRAMD4 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive GRAMD4 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.

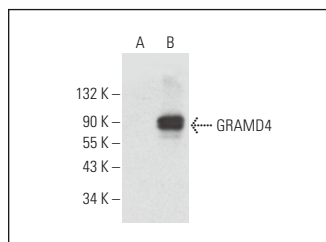
GRAMD4 (C-8): sc-515128 is recommended as a positive control antibody for Western Blot analysis of enhanced human GRAMD4 expression in GRAMD4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



GRAMD4 (C-8): sc-515128. Western blot analysis of GRAMD4 expression in non-transfected: sc-117752 (A) and human GRAMD4 transfected: sc-369187 (B) 293T whole cell lysates.

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.