SANTA CRUZ BIOTECHNOLOGY, INC.

GRAMD4 (C-8): sc-515128

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

1. Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. Chromosome 22. Genet. Test. 2: 89-97.
2. Schwab, S.G. and Wildenauer, D.B. 1999. Chromosome 22 workshop report. Am. J. Med. Genet. 88: 276-278.
3. Tsilchorozidou, T., et al. 2004. Constitutional rearrangements of chromosome 22 as a cause of neurofibromatosis 2. J. Med. Genet. 41: 529-534.
4. Stanelle, J., et al. 2005. A novel mitochondrial protein DIP mediates E2F1-induced apoptosis independently of p53. Cell Death Differ. 12: 347-357.

CHROMOSOMAL LOCATION

Genetic locus: GRAMD4 (human) mapping to 22q13.31; Gramd4 (mouse) mapping to 15 E2.

SOURCE

GRAMD4 (C-8) is a mouse monoclonal antibody raised against amino acids 470-570 mapping near the C-terminus of GRAMD4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRAMD4 (C-8) is available conjugated to agarose (sc-515128 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515128 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515128 PE), fluorescein (sc-515128 FITC), Alexa Fluor® 488 (sc-515128 AF488), Alexa Fluor® 546 (sc-515128 AF546), Alexa Fluor® 594 (sc-515128 AF594) or Alexa Fluor® 647 (sc-515128 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515128 AF680) or Alexa Fluor® 790 (sc-515128 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

GRAMD4 (C-8) is recommended for detection of GRAMD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GRAMD4 siRNA (h): sc-77152, GRAMD4 siRNA (m): sc-145754, GRAMD4 shRNA Plasmid (h): sc-77152-SH, GRAMD4 shRNA Plasmid (m): sc-145754-SH, GRAMD4 shRNA (h) Lentiviral Particles: sc-77152-V and GRAMD4 shRNA (m) Lentiviral Particles: sc-145754-V.

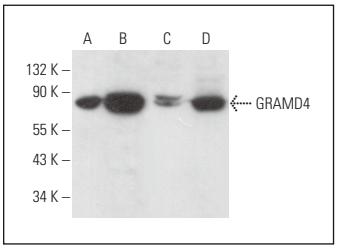
Molecular Weight of GRAMD4 isoforms: 66/11 kDa.

Positive Controls: GRAMD4 (h): 293T Lysate: sc-369187, HL-60 whole cell lysate: sc-2209 or WI-38 whole cell lysate: sc-364260.

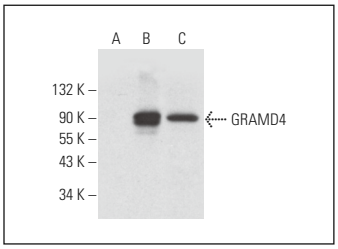
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GRAMD4 (C-8): sc-515128. Western blot analysis of GRAMD4 expression in WI-38 (**A**), HL-60 (**B**), NIH/3T3 (**C**) and C6 (**D**) whole cell lysates.



GRAMD4 (C-8): sc-515128. Western blot analysis of GRAMD4 expression in non-transfected 293T: sc-117752 (**A**), human GRAMD4 transfected 293T: sc-369187 (**B**) and WI-38 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, L., et al. 2018. Inhibition of DNA-PK activity sensitizes A549 cells to X-ray irradiation by inducing the ATM-dependent DNA damage response. Mol. Med. Rep. 17: 7545-7552.
2. Oliveira, T.Y., et al. 2024. Quantitative trait loci mapping provides insights into the genetic regulation of dendritic cell numbers in mouse tissues. Cell Rep. 43: 114296.

RESEARCH USE

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