SANTA CRUZ BIOTECHNOLOGY, INC.

Grim19 (Q-18): sc-324874

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The Power to Question

BACKGROUND

The GRIM family of proteins appear to be novel types of tumor suppressors. Grim19, which stands for gene associated with retinoic-interferon-induced mortality 19 protein, is also designated cell death-regulatory protein Grim-19 or NADH dehydrogenase ubiquinone 1 α subcomplex subunit 13. The Grim19 protein plays two roles within the cell. As a member of the interferon-β and retinoic acid-induced pathway of cell death, Grim19 induces apoptosis. As part of the mitochondrial complex I, Grim19 is essential for its assembly and electron transfer activity. It transfers electrons to the respiratory chain from NADH and plays a role in the interferon/all-trans-retinoic acid (IFN/RA) cell death pathway. It localizes primarily to the mitochondrion, but may translocate to the nucleus upon IFN/RA treatment. Grim19 may also be useful as a biological marker or target for drug development.

REFERENCES

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2. Angell, J.E., et al. 2000. Identification of GRIM-19, a novel cell death-regulatory gene induced by the interferon-β and retinoic acid combination, using a genetic approach. J. Biol. Chem. 275: 33416-33426.
3. Zhang, J., et al. 2003. The cell death regulator GRIM-19 is an inhibitor of signal transducer and activator of transcription 3. Proc. Natl. Acad. Sci. USA 100: 9342-9347.
4. Lufei, C., et al. 2003. GRIM-19, a death-regulatory gene product, suppresses Stat3 activity via functional interaction. EMBO. J. 22: 1325-1335.
5. Huang, G., et al. 2004. GRIM-19, a cell death regulatory protein, is essential for assembly and function of mitochondrial complex I. Mol. Cell. Biol. 24: 8447-8456.
6. Kalvakolanu, D.V. 2004. The GRIMs: a new interface between cell death regulation and interferon/retinoid induced growth suppression. Cytokine Growth Factor Rev.15: 169-194.
8. Maximo, V., et al. 2005. Somatic and germline mutation in GRIM-19, a dual function gene involved in mitochondrial metabolism and cell death, is linked to mitochondrion-rich (Hurthle cell) tumours of the thyroid. Br. J. Cancer 92: 1892-1898.
7. Alchanati, I., et al. 2006. A proteomic analysis reveals the loss of expression of the cell death regulatory gene GRIM-19 in human renal cell carcinomas. Oncogene 25: 7138-7147.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA13 (human) mapping to 19p13.11; Ndufa13 (mouse) mapping to 8 B3.3.

SOURCE

Grim19 (Q-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Grim19 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-324874 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Grim19 (Q-18) is recommended for detection of Grim19 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other NDUFA family members.

Grim19 (Q-18) is also recommended for detection of Grim19 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Grim19 siRNA (h): sc-60765, Grim19 siRNA (m): sc-60766, Grim19 shRNA Plasmid (h): sc-60765-SH, Grim19 shRNA Plasmid (m): sc-60766-SH, Grim19 shRNA (h) Lentiviral Particles: sc-60765-V and Grim19 shRNA (m) Lentiviral Particles: sc-60766-V.

Molecular Weight of Grim19: 16 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.