SANTA CRUZ BIOTECHNOLOGY, INC.

Grim19 (m): 293T Lysate: sc-120630

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 Grim19 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 Grim19, 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 Grim19 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. Grim19, a death-regulatory gene product, suppresses Stat3 activity via functional interaction. EMBO J. 22: 1325-1335.
5. Huang, G., et al. 2004. Grim19, 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.
7. Maximo, V., et al. 2005. Somatic and germline mutation in Grim19, 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.
8. Alchanati, I., et al. 2006. A proteomic analysis reveals the loss of expression of the cell death regulatory gene Grim19 in human renal cell carcinomas. Oncogene 25: 7138-71347.

CHROMOSOMAL LOCATION

Genetic locus: Ndufa13 (mouse) mapping to 8 B3.3.

PRODUCT

Grim19 (m): 293T Lysate represents a lysate of mouse Grim19 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

Grim19 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Grim19 antibodies. Recommended use: 10-20 µl per lane.

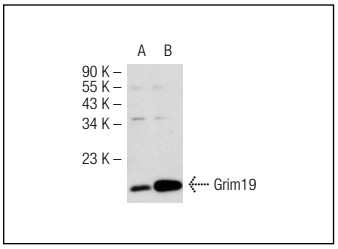
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Grim19 (1A8): sc-66195 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Grim19 expression in Grim19 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



Grim19 (1A8): sc-66195. Western blot analysis of Grim19 expression in non-transfected: sc-117752 (**A**) and mouse Grim19 transfected: sc-120630 (**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.