

# Grim19 (F-10): sc-365978



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 Grim19 or NADH dehydrogenase ubiquinone 1  $\alpha$  subcomplex subunit 13. The Grim19 protein plays two roles within the cell. As a member of the interferon- $\beta$  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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Grim19 (F-10) is a mouse monoclonal antibody raised against amino acids 62-132 mapping near the C-terminus of Grim19 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $\kappa$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Grim19 (F-10) is available conjugated to agarose (sc-365978 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365978 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365978 PE), fluorescein (sc-365978 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365978 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365978 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365978 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365978 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365978 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365978 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Grim19 (F-10) is recommended for detection of Grim19 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 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.

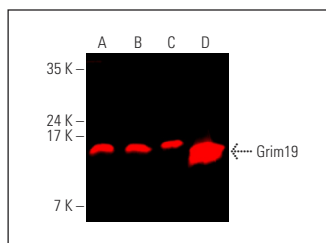
Molecular Weight of Grim19: 16 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

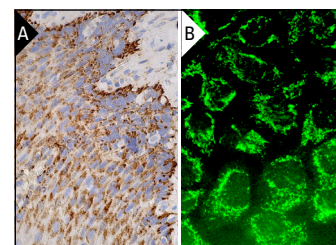
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Grim19 (F-10): sc-365978. Near-infrared western blot analysis of Grim19 expression in Jurkat (A), Hep G2 (B) and HeLa (C) whole cell lysates and human heart tissue extract (D). Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG $\kappa$  BP-CFL 790: sc-516181.



Grim19 (F-10): sc-365978. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (A). Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial localization (B).

## SELECT PRODUCT CITATIONS

- Zhang, W., et al. 2015. Upregulation of GRIM-19 inhibits the growth and invasion of human breast cancer cells. *Mol. Med. Rep.* 12: 2919-2925.
- Moon, J., et al. 2020. GRIM-19 ameliorates multiple sclerosis in a mouse model of experimental autoimmune encephalomyelitis with reciprocal regulation of IFN $\gamma$ /Th1 and IL-17A/Th17 cells. *Immune Netw.* 20: e40.
- Karra, A.G., et al. 2023. Increased expression of the mitochondrial glucocorticoid receptor enhances tumor aggressiveness in a mouse xenograft model. *Int. J. Mol. Sci.* 24: 3740.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. 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](http://www.scbt.com) for detailed protocols and support products.