

# GAPDH (A-3): sc-137179

## BACKGROUND

Glyceraldehyde-3-phosphate dehydrogenase (GAPDH), also called uracil DNA glycosylase, catalyzes the reversible oxidative phosphorylation of glyceraldehyde-3-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD), an important energy-yielding step in carbohydrate metabolism. While GAPDH has long been recognized as playing an integral role in glycolysis, additional functions of GAPDH include acting as an uracil DNA glycosylase, activating transcription, binding RNA and involvement in nuclear RNA export, DNA replication and DNA repair. Expression of GAPDH is upregulated in liver, lung and prostate cancers. GAPDH translocates to the nucleus during apoptosis. GAPDH complexes with neuronal proteins implicated in human neurodegenerative disorders including the  $\beta$ -Amyloid precursor, Huntingtin and other triplet repeat neuronal disorder proteins.

## CHROMOSOMAL LOCATION

Genetic locus: GAPDH (human) mapping to 12p13.31, GAPDHS (human) mapping to 19q13.12; Gapdh (mouse) mapping to 6 F3, Gapdhs (mouse) mapping to 7 B1.

## SOURCE

GAPDH (A-3) is a mouse monoclonal antibody raised against amino acids 1-335 representing full length GAPDH of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GAPDH (A-3) is available conjugated to agarose (sc-137179 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-137179 PE), fluorescein (sc-137179 FITC), Alexa Fluor<sup>®</sup> 488 (sc-137179 AF488), Alexa Fluor<sup>®</sup> 546 (sc-137179 AF546), Alexa Fluor<sup>®</sup> 594 (sc-137179 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-137179 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-137179 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-137179 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

GAPDH (A-3) is recommended for detection of GAPDH and GAPDH-2 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).

Molecular Weight of GAPDH: 37 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or NIH/3T3 whole cell lysate: sc-2210.

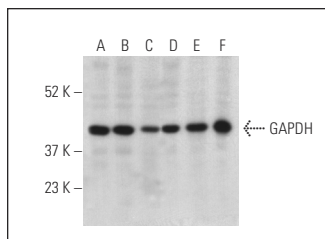
## STORAGE

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

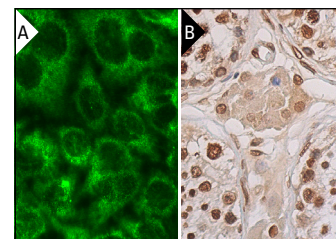
## RESEARCH USE

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

## DATA



GAPDH (A-3): sc-137179. Western blot analysis of GAPDH expression in HeLa (A), Jurkat (B), U-937 (C), MDA-MB-231 (D), NIH/3T3 (E) and 3T3-L1 (F) whole cell lysates. Detection reagent used: m-IgG<sub>1</sub> BP-HRP: sc-525408.



GAPDH (A-3): sc-137179. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and Leydig cells (B).

## SELECT PRODUCT CITATIONS

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- Myers, V.D., et al. 2018. Haplo-insufficiency of Bcl2-associated athanogene 3 in mice results in progressive left ventricular dysfunction,  $\beta$ -adrenergic insensitivity and increased apoptosis. *J. Cell. Physiol.* 233: 6319-6326.
- Gamerding, M., et al. 2019. Early scanning of nascent polypeptides inside the ribosomal tunnel by NAC. *Mol. Cell* 75: 996-1006.e8.
- Zhang, Y., et al. 2020. Adult mesenchymal stem cell ageing interplays with depressed mitochondrial Ndufs6. *Cell Death Dis.* 11: 1075.
- Wu, D., et al. 2021. An acetyl-histone vulnerability in PI3K/AKT inhibition-resistant cancers is targetable by both BET and HDAC inhibitors. *Cell Rep.* 34: 108744.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.