

# GAPDH (6C5): sc-32233

## 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 a 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 neuro-degenerative disorders including the  $\beta$ -Amyloid precursor, Huntingtin and other triplet repeat neuronal disorder proteins.

## CHROMOSOMAL LOCATION

Genetic locus: GAPDH (human) mapping to 12p13.31; Gapdh (mouse) mapping to 6 F3.

## SOURCE

GAPDH (6C5) is a mouse monoclonal antibody raised against GAPDH purified from muscle of rabbit origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

GAPDH (6C5) is recommended for detection of GAPDH of mouse, rat, human, rabbit and *Xenopus laevis* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for GAPDH siRNA (h): sc-35448, GAPDH siRNA (m): sc-35449, GAPDH siRNA (r): sc-270067, GAPDH shRNA Plasmid (h): sc-35448-SH, GAPDH shRNA Plasmid (m): sc-35449-SH, GAPDH shRNA Plasmid (r): sc-270067-SH, GAPDH shRNA (h) Lentiviral Particles: sc-35448-V, GAPDH shRNA (m) Lentiviral Particles: sc-35449-V and GAPDH shRNA (r) Lentiviral Particles: sc-270067-V.

Molecular Weight of GAPDH: 37 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

## STORAGE

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

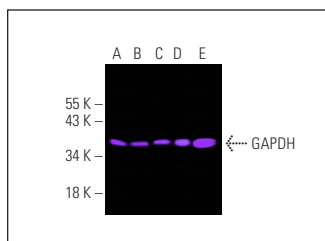
## PROTOCOLS

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

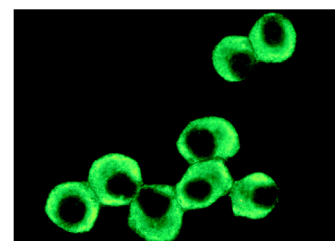
## RESEARCH USE

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

## DATA



GAPDH (6C5): sc-32233. Fluorescent western blot analysis of GAPDH expression in MOLT-4 (A), Jurkat (B), PC-3 (C), U-251-MG (D) and c4 (E) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgG Fc BP-CFL 555: sc-533654.



GAPDH (6C5): sc-32233. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Chang, M.C., et al. 2004. The induction of prostaglandin E2 production, interleukin-6 production, cell cycle arrest, and cytotoxicity in primary oral keratinocytes and KB cancer cells by areca nut ingredients is differentially regulated by MEK/ERK activation. *J. Biol. Chem.* 279: 50676-50683.
- Bisio, A., et al. 2014. Cooperative interactions between p53 and NF $\kappa$ B enhance cell plasticity. *Oncotarget* 5: 12111-12125.
- Lyubetska, H., et al. 2015. An elevated level of circulating galanin promotes developmental expression of myelin basic protein in the mouse brain. *Neuroscience* 284: 581-589.
- Chen, L., et al. 2016. A critical role for the protein kinase PKK in the maintenance of recirculating mature B cells and the development of B cells. *Immunol. Lett.* 172: 67-78.
- Arai, S., et al. 2017. Functional loss of DHRS7C induces intracellular Ca<sup>2+</sup> overload and myotube enlargement in C2C12 cells via calpain activation. *Am. J. Physiol., Cell Physiol.* 312: C29-C39.
- Li, S., et al. 2018. The potential inhibitory effects of miR-19b on vulnerable plaque formation via the suppression of STAT3 transcriptional activity. *Int. J. Mol. Med.* 41: 859-867.
- Ludwig, L.S., et al. 2019. Transcriptional states and chromatin accessibility underlying human erythropoiesis. *Cell Rep.* 27: 3228-3240.e7.
- Zhang, J., et al. 2020. Aster-C coordinates with COP I vesicles to regulate lysosomal trafficking and activation of mTORC1. *EMBO Rep.* 21: e49898.
- Dai, W., et al. 2021. Far Upstream Binding Protein 1 (FUBP1) participates in translational regulation of Nrf2 protein under oxidative stress. *Redox Biol.* 41: 101906.

## CONJUGATES

See **GAPDH (0411): sc-47724** for GAPDH antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.