

# GAPDH (L-18): sc-48167

## 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; Gapdh (mouse) mapping to 6 F3.

## SOURCE

GAPDH (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GAPDH of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-48167 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GAPDH (L-18) is recommended for detection of GAPDH of mouse, rat and human 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)], 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).

GAPDH (L-18) is also recommended for detection of GAPDH in additional species, including porcine and feline.

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

Molecular Weight of GAPDH: 37 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

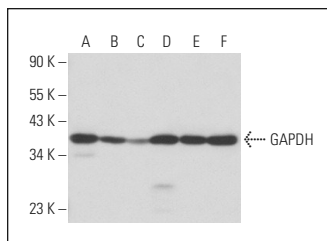
## STORAGE

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

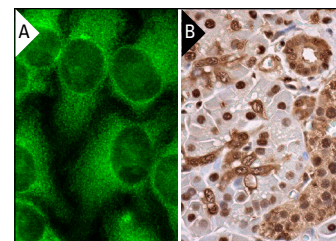
## RESEARCH USE

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

## DATA



GAPDH (L-18): sc-48167. Western blot analysis of GAPDH expression in A549 (A), Hep G2 (B), KNRK (C), JAR (D), HeLa (E) and Raji (F) whole cell lysates.



GAPDH (L-18): sc-48167. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear and cytoplasmic staining of exocrine glandular cells and Islets of Langerhans (B).

## SELECT PRODUCT CITATIONS

- Little, G.H., et al. 2009. Critical role of nuclear calcium/calmodulin-dependent protein kinase II $\delta$ B in cardiomyocyte survival in cardiomyopathy. *J. Biol. Chem.* 284: 24857-24868.
- Desnick, J.P., et al. 2010. Identification and characterization of eight novel SMPD1 mutations causing types A and B Niemann-Pick disease. *Mol. Med.* 16: 316-321.
- Wang, J.G., et al. 2011. Monocytic microparticles activate endothelial cells in an IL-1 $\beta$ -dependent manner. *Blood* 118: 2366-2374.
- Buccigrossi, V., et al. 2011. The HIV-1 transactivator factor (Tat) induces enterocyte apoptosis through a redox-mediated mechanism. *PLoS ONE* 6: e29436.
- Altshuler, A.E., et al. 2012. Protease activity increases in plasma, peritoneal fluid, and vital organs after hemorrhagic shock in rats. *PLoS ONE* 7: e32672.
- Wong, S., et al. 2014. Effects of thiol antioxidant  $\beta$ -mercaptoethanol on diet-induced obese mice. *Life Sci.* 107: 32-41.
- Li, Z., et al. 2015. Protective effect of notoginsenoside R1 on an APP/PS1 mouse model of Alzheimer's disease by up-regulating Insulin degrading enzyme and inhibiting A $\beta$  accumulation. *CNS Neurol. Disord. Drug Targets* 14: 360-369.
- Tao, R., et al. 2015. Association between indel polymorphism in the promoter region of lncRNA GAS5 and the risk of hepatocellular carcinoma. *Carcinogenesis* 36: 1136-1143.


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