

GAPDH (7B): sc-69778

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 β -Amyloid precursor, Huntingtin and other triplet repeat neuronal disorder proteins.

REFERENCES

1. Meyer-Siegler, K., et al. 1991. A human nuclear uracil DNA glycosylase is the 37 kDa subunit of GAPDH. *Proc. Natl. Acad. Sci. USA* 88: 8460-8464.
2. Rondinelli, R.H., et al. 1997. Increased GAPDH gene expression in late pathological stage human prostate cancer. *Prostate Cancer Prostatic Dis.* 2: 66-72.

CHROMOSOMAL LOCATION

Genetic locus: GAPDH (human) mapping to 12p13.31.

SOURCE

GAPDH (7B) is a mouse monoclonal antibody raised against recombinant GAPDH of human origin.

PRODUCT

Each vial contains IgG₁ in 100 μ l of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GAPDH (7B) is recommended for detection of GAPDH of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 μ l per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

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

Molecular Weight of GAPDH: 37 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, GAPDH (h2): 293T Lysate: sc-113612 or Jurkat whole cell lysate: sc-2204.

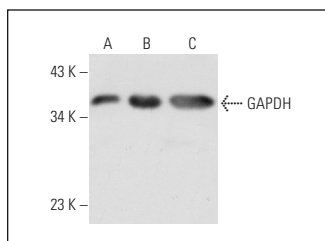
STORAGE

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

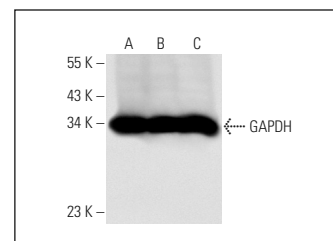
RESEARCH USE

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

DATA



GAPDH (7B): sc-69778. Western blot analysis of GAPDH expression in non-transfected 293T: sc-117752 (A), human GAPDH transfected 293T: sc-113612 (B) and A549 (C) whole cell lysates.



GAPDH (7B): sc-69778. Western blot analysis of GAPDH expression in non-transfected 293T: sc-117752 (A), mouse GAPDH transfected 293T: sc-120412 (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Boriskin, Y.S., et al. 2006. Arbidol: a broad-spectrum antiviral that inhibits acute and chronic HCV infection. *Virology* 3: 56.
2. Palijan, A., et al. 2009. Ligand-dependent corepressor LCoR is an attenuator of progesterone-regulated gene expression. *J. Biol. Chem.* 284: 30275-30287.
3. Landriscina, M., et al. 2010. Mitochondrial chaperone Trap1 and the calcium binding protein Sorcin interact and protect cells against apoptosis induced by antiproliferative agents. *Cancer Res.* 70: 6577-6586.
4. Abend, J.R., et al. 2012. Kaposi's sarcoma-associated herpesvirus microRNAs target IRAK1 and MYD88, two components of the Toll-like receptor/interleukin-1R signaling cascade, to reduce inflammatory-cytokine expression. *J. Virol.* 86: 11663-11674.
5. van Loon, B. and Samson, L.D. 2013. Alkyladenine DNA glycosylase (AAG) localizes to mitochondria and interacts with mitochondrial single-stranded binding protein (mtSSB). *DNA Repair* 12: 177-187.
6. Pinto, F., et al. 2014. T-box transcription factor brachyury is associated with prostate cancer progression and aggressiveness. *Clin. Cancer Res.* 20: 4949-4991.
7. Agliarulo, I., et al. 2015. TRAP1 controls cell migration of cancer cells in metabolic stress conditions: Correlations with AKT/p70^{S6K} pathways. *Biochim. Biophys. Acta* 1853: 2570-2579.
8. Pereira, M.S., et al. 2016. SPINT2 deregulation in prostate carcinoma. *J. Histochem. Cytochem.* 64: 32-41.
9. Matassa, D.S., et al. 2016. Oxidative metabolism drives inflammation-induced platinum resistance in human ovarian cancer. *Cell Death Differ.* 23: 1542-1554.

CONJUGATES

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