

GAPDH (I-19): sc-48166

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 β -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 (I-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GAPDH of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-48166 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GAPDH (I-19) is recommended for detection of GAPDH and GAPDH-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 (I-19) is also recommended for detection of GAPDH and GAPDH-2 in additional species, including equine, canine, bovine, porcine, avian and feline.

Molecular Weight of GAPDH: 37 kDa.

Positive Controls: GAPDH (m18): 293T Lysate: sc-120412, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

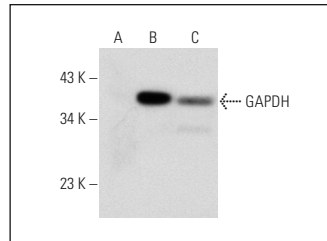
STORAGE

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

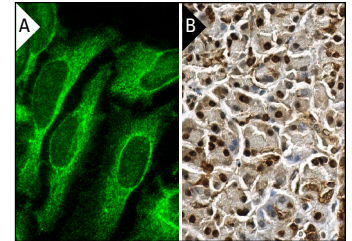
RESEARCH USE

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

DATA



GAPDH (I-19): sc-48166. 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.



GAPDH (I-19): sc-48166. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunohistochemistry staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear and cytoplasmic staining of islets of Langerhans and glandular cells (B).

SELECT PRODUCT CITATIONS

- Hou, Y., et al. 2008. Annexin A2 regulates the levels of plasmin, S100A10 and fascin in L5178Y cells. *Cancer Invest.* 26: 809-815.
- Ullah, Z., et al. 2008. Differentiation of trophoblast stem cells into giant cells is triggered by p57/Kip2 inhibition of CDK1 activity. *Genes Dev.* 22: 3024-3036.
- Zhang, J., et al. 2011. Translational repression of p53 by RNPC1, a p53 target overexpressed in lymphomas. *Genes Dev.* 25: 1528-1543.
- Yan, W., et al. 2011. Mutant p53 protein is targeted by arsenic for degradation and plays a role in arsenic-mediated growth suppression. *J. Biol. Chem.* 286: 17478-17486.
- Mohan, R.R., et al. 2011. Targeted decorin gene therapy delivered with adeno-associated virus effectively retards corneal neovascularization *in vivo*. *PLoS ONE* 6: e26432.
- Xu, B., et al. 2012. RhoA/ROCK, cytoskeletal dynamics, and focal adhesion kinase are required for mechanical stretch-induced tenogenic differentiation of human mesenchymal stem cells. *J. Cell. Physiol.* 227: 2722-2729.
- Guo, W., et al. 2012. Testosterone plus low-intensity physical training in late life improves functional performance, skeletal muscle mitochondrial biogenesis, and mitochondrial quality control in male mice. *PLoS ONE* 7: e51180.
- Madan, E., et al. 2013. SCO2 induces p53-mediated apoptosis by Thr845 phosphorylation of ASK-1 and dissociation of the ASK-1-Trx complex. *Mol. Cell. Biol.* 33: 1285-1302.



Try **GAPDH (0411): sc-47724** or **GAPDH (G-9): sc-365062**, our highly recommended monoclonal alternatives to GAPDH (I-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **GAPDH (0411): sc-47724**.