

# GAPDH (L-20): sc-31915

## 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.

## REFERENCES

1. Meyer-Siegler, K., et al. 1991. A human nuclear uracil DNA glycosylase is the 37-kDa subunit of glyceraldehyde-3-phosphate dehydrogenase. Proc. Natl. Acad. Sci. USA. 88: 8460-8464.
2. Rondinelli, R.H., et al. 1997. Increased glyceraldehyde-3-phosphate dehydrogenase gene expression in late pathological stage human prostate cancer. Prostate Cancer Prostatic Dis. 1: 66-72.

## 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 (L-20) 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  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31915 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GAPDH (L-20) 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  $\mu$ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GAPDH (L-20) is also recommended for detection of GAPDH and GAPDH-2 in additional species, including equine, canine, bovine, porcine, avian and feline.

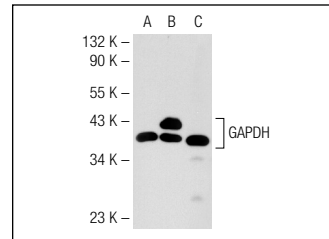
Molecular Weight of GAPDH: 37 kDa.

Positive Controls: GAPDH (h): 293T Lysate: sc-159909, Hep G2 cell lysate: sc-2227 or GAPDH (m): 293T Lysate: sc-120412.

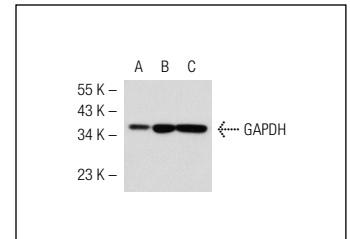
## STORAGE

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

## DATA



GAPDH (L-20): sc-31915. Western blot analysis of GAPDH expression in non-transfected 293T: sc-117752 (A), human GAPDH transfected 293T: sc-159909 (B) and Hep G2 (C) whole cell lysates.



GAPDH (L-20): sc-31915. 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. Wagner, N., et al. 2008. The Wilms' tumor suppressor WT1 is associated with melanoma proliferation. Pflugers Arch. 455: 839-847.
2. Del Tongo, C., et al. 2009. Parvalbumin-positive GABAergic interneurons are increased in the dorsal hippocampus of the dystrophic mdx mouse. Acta Neuropathol. 118: 803-812.
3. Dai, Y., et al. 2010. Natural proteasome inhibitor celastrol suppresses androgen-independent prostate cancer progression by modulating apoptotic proteins and NF- $\kappa$ B. PLoS ONE 5: e14153.
4. Bouma, W., et al. 2010. Sex-related resistance to myocardial ischemia-reperfusion injury is associated with high constitutive ARC expression. Am. J. Physiol. Heart Circ. Physiol. 298: H1510-H1517.
5. Michiels, J.F., et al. 2010. PPAR $\beta$  activation inhibits melanoma cell proliferation involving repression of the Wilms' tumour suppressor WT1. Pflugers Arch. 459: 689-703.
6. Rajesh, R.V., et al. 2010. Proteomic analysis of bovine omental, subcutaneous and intramuscular preadipocytes during *in vitro* adipogenic differentiation. Comp. Biochem. Physiol. Part D Genomics Proteomics 5: 234-244.

## RESEARCH USE

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


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Try **GAPDH (0411): sc-47724** or **GAPDH (G-9): sc-365062**, our highly recommended monoclonal alternatives to GAPDH (L-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **GAPDH (0411): sc-47724**.