SANTA CRUZ BIOTECHNOLOGY, INC.

# GAPDH (10B8): sc-51905

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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.

## 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.

## SOURCE

GAPDH (10B8) is a mouse monoclonal antibody raised against GADPH of rabbit origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

GAPDH (10B8) is recommended for detection of GAPDH of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

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.

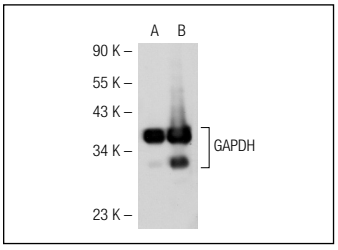
Molecular Weight of GAPDH: 37 kDa.

Positive Controls: GAPDH (h3): 293T Lysate: sc-113887, Hep G2 cell lysate: sc-2227 or JAR cell lysate: sc-2276.

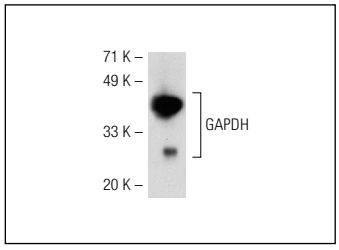
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA




GAPDH (10B8): sc-51905. Western blot analysis of GAPDH expression in non-transfected: sc-117752 (**A**) and human GAPDH transfected: sc-113887 (**B**) 293T whole cell lysates.




GAPDH (10B8): sc-51905. Western blot analysis of GAPDH expression in Hep G2 whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Verma, N., et al. 2009. Silencing of TNFα receptors coordinately suppresses TNFα expression through NFκB activation blockade in THP-1 macrophage. FEBS Lett. 583: 2968-2974.
2. Borde, C., et al. 2011. Stepwise release of biologically active HMGB1 during HSV-2 infection. PLoS ONE 6: e16145.
3. Zhang, C.Z., et al. 2011. Trichostatin A sensitizes HBx-expressing liver cancer cells to etoposide treatment. Apoptosis 16: 683-695.
4. Sahu, R.P., et al. 2012. Mice lacking epidermal PPARγ exhibit a marked augmentation in photocarcinogenesis associated with increased UVB-induced apoptosis, inflammation and barrier dysfunction. Int. J. Cancer 131: E1055-E1066.
5. Castillo, C., et al. 2012. Role of matrix metalloproteinases 2 and 9 in *ex vivo Trypanosoma cruzi* infection of human placental chorionic villi. Placenta 33: 991-997.
6. Ruiz, A., et al. 2012. Retinoid content, visual responses, and ocular morphology are compromised in the retinas of mice lacking the retinol-binding protein receptor, STRA6. Invest. Ophthalmol. Vis. Sci. 53: 3027-3039.
7. Pore, S.K., et al. 2013. Hsp90-targeted miRNA-liposomal formulation for systemic antitumor effect. Biomaterials 34: 6804-6817.


## RESEARCH USE

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