

GAPDH (6F7): sc-51907

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.

SOURCE

GAPDH (6F7) is a mouse monoclonal antibody raised against GAPDH from muscle of rabbit origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GAPDH (6F7) is recommended for detection of GAPDH of human and rabbit 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GAPDH (6F7) is also recommended for detection of GAPDH in additional species, including canine.

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 (h): 293T Lysate: sc-159909, Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

STORAGE

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

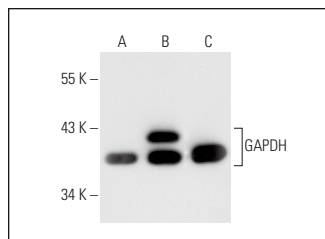
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

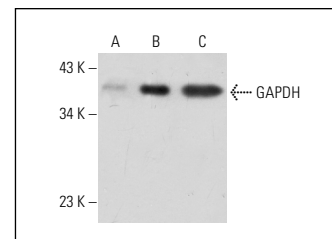
RESEARCH USE

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

DATA



GAPDH (6F7): sc-51907. 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 (6F7): sc-51907. 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.

SELECT PRODUCT CITATIONS

- Li, C., et al. 2012. Regulatory effect of connexin 43 on basal Ca^{2+} signaling in rat ventricular myocytes. *PLoS ONE* 7: e36165.
- Luo, M., et al. 2013. MicroRNA-497 is a potential prognostic marker in human cervical cancer and functions as a tumor suppressor by targeting the insulin-like growth factor 1 receptor. *Surgery* 153: 836-847.
- Trocoli, A., et al. 2014. p62/SQSTM1 upregulation constitutes a survival mechanism that occurs during granulocytic differentiation of acute myeloid leukemia cells. *Cell Death Differ.* 21: 1852-1861.
- Maxfield, K.E., et al. 2015. Comprehensive functional characterization of cancer-testis antigens defines obligate participation in multiple hallmarks of cancer. *Nat. Commun.* 6: 8840.
- Wang, H., et al. 2017. Expression levels of microRNA-455 and its potential functions by targeting IGF-1R in melanoma. *Mol. Med. Rep.* 15: 3852-3858.
- Zhao, J., et al. 2018. MicroRNA-539 inhibits colorectal cancer progression by directly targeting SOX4. *Oncol. Lett.* 16: 2693-2700.
- Wang, Y., et al. 2019. miR-27a suppresses TLR4-induced renal ischemia-reperfusion injury. *Mol. Med. Rep.* 20: 967-976.
- Zhang, T., et al. 2020. TBL1XR1 is involved in c-Met-mediated tumorigenesis of human non-small cell lung cancer. *Cancer Gene Ther.* 27: 136-146.
- Xu, L., et al. 2020. MicroRNA-936 inhibits the malignant phenotype of retinoblastoma by directly targeting HDAC9 and deactivating the PI3K/AKT pathway. *Oncol. Rep.* 43: 635-645.
- Li, M., et al. 2020. Captopril attenuates the upregulated connexin 43 expression in artery calcification. *Arch. Med. Res.* 51: 215-223.



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