

## GAPDH-2 (2E3-2E10): sc-293335



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 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  $\beta$ -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: GAPDHS (human) mapping to 19q13.12; Gapdhs (mouse) mapping to 7 B1.

**SOURCE**

GAPDH-2 (2E3-2E10) is a mouse monoclonal antibody raised against amino acids 1-408 of GAPDH-2 of human origin.

**PRODUCT**

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**

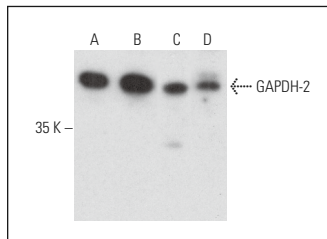
GAPDH-2 (2E3-2E10) is recommended for detection of GAPDH-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for GAPDH-2 siRNA (h): sc-40626, GAPDH-2 siRNA (m): sc-40627, GAPDH-2 shRNA Plasmid (h): sc-40626-SH, GAPDH-2 shRNA Plasmid (m): sc-40627-SH, GAPDH-2 shRNA (h) Lentiviral Particles: sc-40626-V and GAPDH-2 shRNA (m) Lentiviral Particles: sc-40627-V.

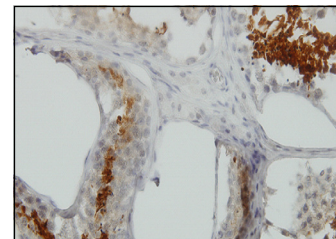
Positive Controls: MCF7 whole cell lysate: sc-2206, NTERA-2 cl.D1 whole cell lysate: sc-364181 or NIH/3T3 whole cell lysate: sc-2210.

**STORAGE**

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

**DATA**

GAPDH-2 (2E3-2E10): sc-293335. Western blot analysis of GAPDH-2 expression in MCF7 (A), NTERA-2 cl.D1 (B) and NIH/3T3 (C) whole cell lysates and human testis tissue extract (D).



GAPDH-2 (2E3-2E10): sc-293335. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining.

**SELECT PRODUCT CITATIONS**

1. Chen, S., et al. 2017. Sciareolide enhances gemcitabine-induced cell death through mediating the NICD and Gli1 pathways in gemcitabine-resistant human pancreatic cancer. *Mol. Med. Rep.* 15: 1461-1470.
2. Jia, J., et al. 2017. Estrogen stimulates osteoprotegerin expression via the suppression of miR-145 expression in MG-63 cells. *Mol. Med. Rep.* 15: 1539-1546.
3. Chang, P., et al. 2017. Molecular identification of transmembrane protein 68 as an endoplasmic reticulum-anchored and brain-specific protein. *PLoS ONE* 12: e0176980.
4. Xu, H., et al. 2017. AXIN1 protects against testicular germ cell tumors via the PI3K/AKT/mTOR signaling pathway. *Oncol. Lett.* 14: 981-986.
5. Qiu, C., et al. 2017. Licochalcone A inhibits the proliferation of human lung cancer cell lines A549 and H460 by inducing G<sub>2</sub>/M cell cycle arrest and ER stress. *Int. J. Mol. Sci.* 18: 1761.
6. Zhang, W., et al. 2017. Activation of imidazoline I<sub>1</sub> receptor by moxonidine regulates the progression of liver fibrosis in the Nrf2-dependent pathway. *Biomed. Pharmacother.* 90: 821-834.
7. An, F., et al. 2017. MiR-21 inhibition of LATS1 promotes proliferation and metastasis of renal cancer cells and tumor stem cell phenotype. *Oncol. Lett.* 14: 4684-4688.
8. Yan, T., et al. 2017. Astaxanthin inhibits gemcitabine-resistant human pancreatic cancer progression through EMT inhibition and gemcitabine resensitization. *Oncol. Lett.* 14: 5400-5408.
9. Wei, D.W., et al. 2017. NRF1 and ZSCAN10 bind to the promoter region of the SIX1 gene and their effects body measurements in Qinchuan cattle. *Sci. Rep.* 7: 7867.

**RESEARCH USE**

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