SANTA CRUZ BIOTECHNOLOGY, INC.

GAPDH-2 (Hs-8): sc-51631

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 uricil 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.
3. Eyschen, J., et al. 1999. Engineered glycolytic glyceraldehyde-3-phosphate dehydrogenase binds the anti conformation of NAD^+ nicotinamide but does not experience A-specific hydride transfer. Arch. Biochem. Biophys. 364: 219-227.
4. Sirover, M.A. 1999. New insights into an old protein: the functional diversity of mammalian glyceraldehyde-3-phosphate dehydrogenase. Biochim. Biophys. Acta 1432: 159-184.

CHROMOSOMAL LOCATION

Genetic locus: GAPDHS (human) mapping to 19q13.12.

SOURCE

GAPDH-2 (Hs-8) is a mouse monoclonal antibody raised against purified spermatozoa of human origin.

PRODUCT

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

APPLICATIONS

GAPDH-2 (Hs-8) is recommended for detection of GAPDH-2 of human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

STORAGE

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

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2018. Downregulation of miR-637 promotes proliferation and metastasis by targeting Smad3 in keloids. Mol. Med. Rep. 18: 1628-1636.
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3. Li, R.M., et al. 2018. Down-expression of GOLM1 enhances the chemosensitivity of cervical cancer to methotrexate through modulation of the MMP13/EMT axis. Am. J. Cancer Res. 8: 964-980.
4. Song, H.M., et al. 2018. Carnosic acid protects mice from high-fat diet-induced NAFLD by regulating MARCKS. Int. J. Mol. Med. 42: 193-207.
5. Chen, J.W., et al. 2018. Knockdown of angiopoietin-like 4 inhibits the development of human gastric cancer. Oncol. Rep. 39: 1739-1746.
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7. Ding, L., et al. 2018. (-)Epigallocatechin-3-gallate attenuates anesthesia-induced memory deficit in young mice via modulation of nitric oxide expression. Mol. Med. Rep. 18: 4813-4820.
8. Lian, H., et al. 2018. Notch signaling promotes serrated neoplasia pathway in colorectal cancer through epigenetic modification of EPHB2 and EPHB4. Cancer Manag. Res. 10: 6129-6141.
9. Sun, Y., et al. 2018. Inhibition of BRD4 attenuates cardiomyocyte apoptosis via NFκB pathway in a rat model of myocardial infarction. Cardiovasc. Ther. E-published.
10. Zhang, A., et al. 2019. Exosome-mediated microRNA-138 and vascular endothelial growth factor in endometriosis through inflammation and apoptosis via the nuclear factor-κB signaling pathway. Int. J. Mol. Med. 43: 358-370.
11. Ying, D., et al. 2019. MEG2 inhibits the growth and metastasis of hepatocellular carcinoma by inhibiting AKT pathway. Gene 687: 1-8.
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13. Bai, Y., et al. 2019. Expression of microRNA-27a in a rat model of osteonecrosis of the femoral head and its association with TGF-β/Smad7 signalling in osteoblasts. Int. J. Mol. Med. 43: 850-860.
14. Wang, Q., et al. 2019. MicroRNA-98/PTEN/AKT pathway inhibits cell proliferation and malignant progression of hypopharyngeal carcinoma by MTDH. Oncol. Rep. 41: 863-874.

RESEARCH USE

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