

GAPDH Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1020b

Product Information

Application	WB, IHC-P, IF
Primary Accession	P04406
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	1A10A10
Calculated MW	36053

Additional Information

Gene ID	2597
Other Names	Glyceraldehyde-3-phosphate dehydrogenase, GAPDH, Peptidyl-cysteine S-nitrosylase GAPDH, 2699-, GAPDH, GAPD
Target/Specificity	GAPDH recombinant protein is used to produce this monoclonal antibody.
Dilution	WB~~1:1000
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GAPDH Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GAPDH {ECO:0000303 PubMed:2987855, ECO:0000312 HGNC:HGNC:4141}
Function	Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively (PubMed: 3170585 , PubMed: 11724794). Glyceraldehyde-3-phosphate dehydrogenase is a key enzyme in glycolysis that catalyzes the first step of the pathway by converting D- glyceraldehyde 3-phosphate (G3P) into 3-phospho-D-glyceroyl phosphate (PubMed: 3170585 , PubMed: 11724794). Modulates the organization and assembly of the

cytoskeleton (By similarity). Facilitates the CHP1- dependent microtubule and membrane associations through its ability to stimulate the binding of CHP1 to microtubules (By similarity). Component of the GAIT (gamma interferon-activated inhibitor of translation) complex which mediates interferon-gamma-induced transcript-selective translation inhibition in inflammation processes (PubMed:[23071094](#)). Upon interferon-gamma treatment assembles into the GAIT complex which binds to stem loop-containing GAIT elements in the 3'-UTR of diverse inflammatory mRNAs (such as ceruplasmin) and suppresses their translation (PubMed:[23071094](#)). Also plays a role in innate immunity by promoting TNF-induced NF-kappa-B activation and type I interferon production, via interaction with TRAF2 and TRAF3, respectively (PubMed:[23332158](#), PubMed:[27387501](#)). Participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis (By similarity). Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S-nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC (By similarity).

Cellular Location

Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:P04797}. Cytoplasm, perinuclear region. Membrane Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797} Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity). Postnuclear and Perinuclear regions (PubMed:12829261) {ECO:0000250|UniProtKB:P04797, ECO:0000269|PubMed:12829261}

Background

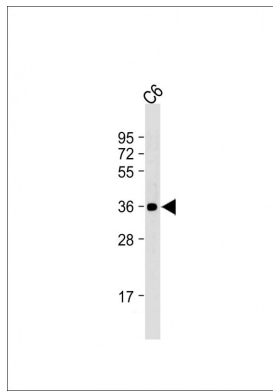
The product of this gene catalyzes an important energy-yielding step in carbohydrate metabolism, the reversible oxidative phosphorylation of glyceraldehyde-3-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD). The enzyme exists as a tetramer of identical chains. Many pseudogenes similar to this locus are present in the human genome.

References

Inhibition of glyceraldehyde-3-phosphate dehydrogenase activity by antibodies present in the cerebrospinal fluid of patients with multiple sclerosis. K \square ln J, et al. J Immunol, 2010 Aug 1. PMID 20610654. Proteome analysis of the thalamus and cerebrospinal fluid reveals glycolysis dysfunction and potential biomarkers candidates for schizophrenia. Martins-de-Souza D, et al. J Psychiatr Res, 2010 May 14. PMID 20471030. Sex-specific proteome differences in the anterior cingulate cortex of schizophrenia. Martins-de-Souza D, et al. J Psychiatr Res, 2010 Apr 8. PMID 20381070. Identification of melanoma antigens using a Serological Proteome Approach (SERPA). Suzuki A, et al. Cancer Genomics Proteomics, 2010 Jan-Feb. PMID 20181627. siah-1 Protein is necessary for high glucose-induced glyceraldehyde-3-phosphate dehydrogenase nuclear accumulation and cell death in Muller cells. Yego EC, et al. J Biol Chem, 2010 Jan 29. PMID 19940145.

Images

All lanes : Anti-GAPDH Antibody at 1:1000 dilution Lane 1:
C6 whole cell lysate Lysates/proteins at 20 μ g per lane.
Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase
conjugated at 1/10000 dilution. Predicted band size : 36
kDa Blocking/Dilution buffer: 5% NFDN/TBST.



Citations

- [DI-3-n-butylphthalide alleviates cognitive impairment in amyloid precursor protein/presenilin 1 transgenic mice by regulating the striatal-enriched protein tyrosine phosphatase/ERK/cAMP-response element-binding protein signaling pathway](#)
- [RanBP2/Nup358 enhances miRNA activity by sumoylating Argonautes](#)
- [Deoxycholic Acid Upregulates Serum Golgi Protein 73 through Activating NF-κB Pathway and Destroying Golgi Structure in Liver Disease](#)
- [A multi-kinase inhibitor APG-2449 enhances the antitumor effect of ibrutinib in esophageal squamous cell carcinoma via EGFR/FAK pathway inhibition](#)
- [Isochamaejasmin induces toxic effects on Helicoverpa zea via DNA damage and mitochondria-associated apoptosis](#)
- [CircRNA_102179 promotes the proliferation, migration and invasion in non-small cell lung cancer cells by regulating miR-330-5p/HMGB3 axis](#)
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- [Expression and prognostic significance of MYL9 in esophageal squamous cell carcinoma](#)
- [The Role of Annexin A4 in Triple-Negative Breast Cancer Progression and Its Clinical Application](#)
- [Use of rhenium-188 for in vivo imaging and treatment of human cervical cancer cells transfected with lentivirus expressing sodium iodide symporter](#)

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