

## GAPDH Antibody

**Purified Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM1020b**

### Specification

#### GAPDH Antibody - Product Information

|                   |                        |
|-------------------|------------------------|
| Application       | IF, WB, IHC-P,E        |
| Primary Accession | <a href="#">P04406</a> |
| Reactivity        | Human, Mouse, Rat      |
| Host              | Mouse                  |
| Clonality         | Monoclonal             |
| Isotype           | IgG1                   |

#### GAPDH Antibody - 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

IF~~1:25  
WB~~1:2000~10000  
IHC-P~~1:25

#### 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.

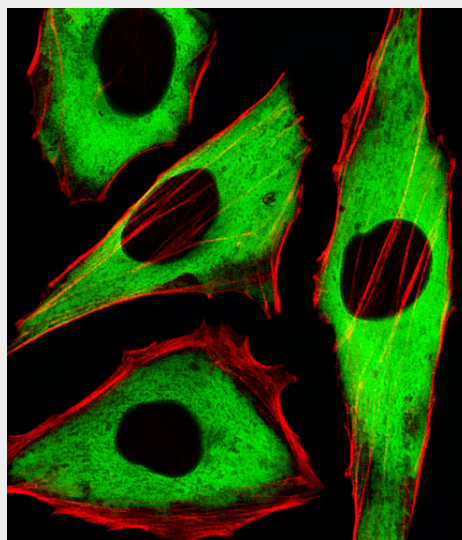
#### Storage

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.

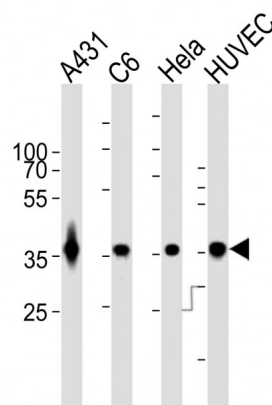
#### Precautions

GAPDH Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

#### GAPDH Antibody - Protein Information



Fluorescent image of HeLa cells stained with XAF1 GAPDH Antibody(Cat#AM1020b). AM1020b was diluted at 1:25 dilution. An Alexa Fluor® 488-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



All lanes : Anti-GAPDH Antibody at 1:1000 dilution  
Lane 1: A431 whole cell lysates  
Lane 2: C6 whole cell lysates  
Lane 3: HeLa whole cell lysates  
Lane 4: HUVEC whole cell lysates

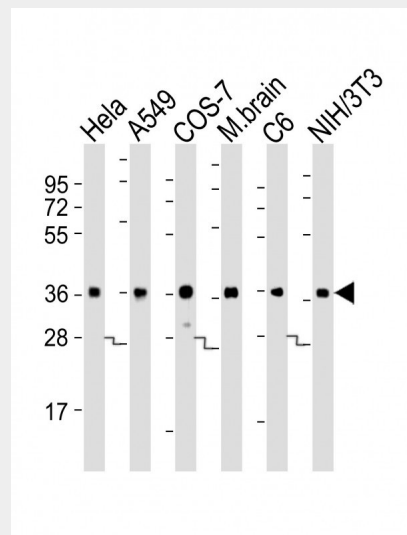
### Name GAPDH

{ECO:0000303|PubMed:2987855,  
ECO:0000312|HGNC:HGNC:4141}

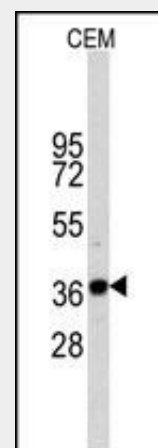
### Function

Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively (PubMed:<a href="http://www.uniprot.org/citations/3170585" target="\_blank">3170585</a>, PubMed:<a href="http://www.uniprot.org/citations/11724794" target="\_blank">11724794</a>). 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:<a href="http://www.uniprot.org/citations/3170585" target="\_blank">3170585</a>, PubMed:<a href="http://www.uniprot.org/citations/11724794" target="\_blank">11724794</a>). 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:<a href="http://www.uniprot.org/citations/23071094" target="\_blank">23071094</a>). 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:<a href="http://www.uniprot.org/citations/23071094" target="\_blank">23071094</a>). 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:<a href="http://www.uniprot.org/citations/23332158" target="\_blank">23332158</a>, PubMed:<a href="http://www.uniprot.org/citations/27387501" target="\_blank">27387501</a>).

cell lysates Lane 4: HUVEC whole cell lysates  
Lysates/proteins at 20 µg per lane.  
Secondary Goat Anti-mouse IgG, (H+L),  
Peroxidase conjugated at 1/10000 dilution  
Predicted band size : 36 kDa  
Blocking/Dilution buffer: 5% NFDM/TBST.



All lanes : Anti-GAPDH Antibody at 1:8000 dilution  
Lane 1: HeLa whole cell lysates Lane 2: A549 whole cell lysates Lane 3: COS-7 whole cell lysates Lane 4: mouse brain lysates Lane 5: C6 whole cell lysates Lane 6: NIH/3T3 whole cell lysates  
Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 36 kDa  
Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of anti-GAPDH Monoclonal Antibody (Cat. #AM1020b) in CEM cell line lysates (35µg/lane). GAPDH(arrow) was detected using the purified Mab.

target="\_blank">27387501</a>). 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).

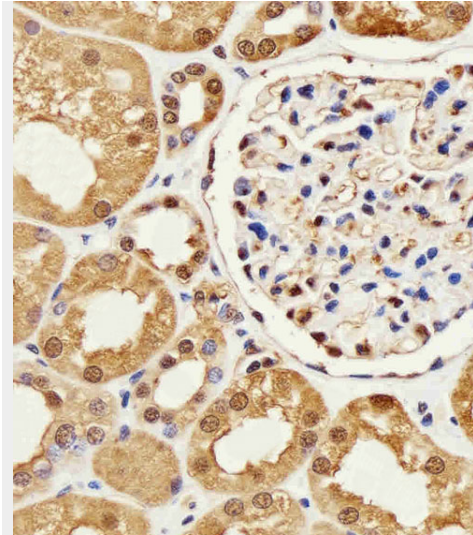
#### Cellular Location

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}

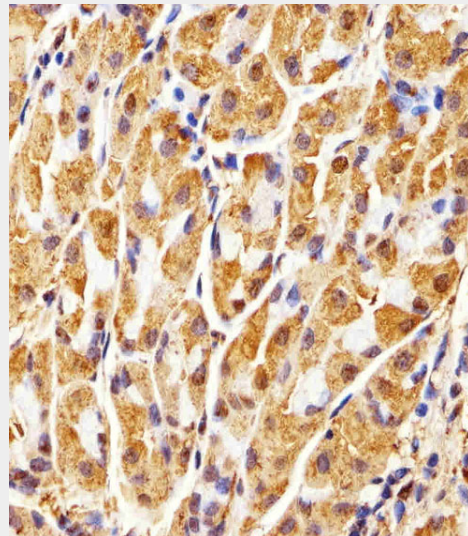
#### GAPDH Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)



Immunohistochemical analysis of paraffin-embedded H.kidney section using GAPDH Antibody (Cat#AM1020b). AM1020b was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded H.stomach section using GAPDH Antibody (Cat#AM1020b). AM1020b was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

#### GAPDH Antibody - 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.

### **GAPDH Antibody - References**

Inhibition of glyceraldehyde-3-phosphate dehydrogenase activity by antibodies present in the cerebrospinal fluid of patients with multiple sclerosis. Kölln 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.

### **GAPDH Antibody - Citations**

- [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](#)
- [The E3 ubiquitin ligase UBR5 interacts with TTC7A and may be associated with very early onset inflammatory bowel disease](#)
- [Ectodermal-neural cortex 1 as a novel biomarker predicts poor prognosis and induces metastasis in breast cancer by promoting Wnt/β-catenin pathway](#)
- [Differential red blood cell age fractionation and Band 3 phosphorylation distinguish two different subtypes of warm autoimmune hemolytic anemia](#)
- [Circular RNA atlas in osteoclast differentiation with and without alendronate treatment](#)
- [miR-520h Stimulates Drug Resistance to Paclitaxel by Targeting the OTUD3-PTEN Axis in Breast Cancer](#)
- [Wall Teichoic Acid Glycosylation Promotes Surface Anchoring of Virulence Factors, Resistance to Antimicrobial Peptides, and Decreased Susceptibility to Antibiotics](#)
- [Iron overload contributes to general anaesthesia-induced neurotoxicity and cognitive](#)

deficits

- [Long noncoding RNA atlas of the inflammation caused by asthma in mice](#)
- [Altered decidual and placental catabolism of vitamin D may contribute to the aetiology of spontaneous miscarriage](#)
- [Screening and identification of epithelial-to-mesenchymal transition-related circRNA and miRNA in prostate cancer](#)
- [Effect of Furostanol Saponins from Allium Macrostemon Bunge Bulbs on Platelet Aggregation Rate and PI3K/Akt Pathway in the Rat Model of Coronary Heart Disease](#)
- [Induction of mTOR-dependent autophagy by WS nanosheets from both inside and outside of human cells](#)
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- [MicroRNA-26a inhibits multiple myeloma cell growth by suppressing cyclin-dependent kinase 6 expression](#)
- [Exosomes increased angiogenesis in papillary thyroid cancer microenvironment](#)
- [Inhibition of the deubiquitinase USP9x induces pre-B cell homeobox 1 \(PBX1\) degradation and thereby stimulates prostate cancer cell apoptosis](#)
- [Downregulation of endothelial transient receptor potential vanilloid type 4 channel underlines impaired endothelial nitric oxide-mediated relaxation in the mesenteric arteries of hypertensive rats](#)
- [Selenium-Rich Diet Induces Myocardial Structural and Functional Abnormalities by Activating Caspase-9 and Caspase-3 in Gpx-1P198L-Overexpression Transgenic Mice](#)
- [Hepatitis C Virus Entry into Macrophages/Monocytes Mainly Depends on the Phagocytosis of Macrophages](#)
- [The natural polyphenol curcumin induces apoptosis by suppressing STAT3 signaling in esophageal squamous cell carcinoma](#)
- [L-Rhamnosylation of wall teichoic acids promotes efficient surface association of Listeria monocytogenes virulence factors InlB and Ami through interaction with GW domains](#)
- [DFMG attenuates the activation of macrophages induced by co-culture with LPC-injured HUVE-12 cells via the TLR4/MyD88/NF- \$\kappa\$ B signaling pathway](#)
- [Peptide SS-31 upregulates frataxin expression and improves the quality of mitochondria: implications in the treatment of Friedreich ataxia](#)
- [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](#)
- [Silencing DNA methyltransferase 1 \(DNMT1\) inhibits proliferation, metastasis and invasion in ESCC by suppressing methylation of RASSF1A and DAPK](#)
- [Pulsatile delivery of a leucine supplement during long-term continuous enteral feeding enhances lean growth in term neonatal pigs](#)
- [Hepatocellular Carcinoma Cells Induce Regulatory T Cells and Lead to Poor Prognosis via Production of Transforming Growth Factor- \$\beta\$ 1](#)
- [Upregulation of microRNA-96 and its oncogenic functions by targeting CDKN1A in bladder cancer](#)
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- [Molecular In Vivo Imaging Using a Noninvasive Cardiac-Specific MLC-2v Promoter Driven Dual-Gene Recombinant Lentivirus Monitoring System](#)
- [Cyclin O regulates germinal vesicle breakdown in mouse oocytes](#)
- [Nutrition deficiency promotes apoptosis of cartilage endplate stem cells in a caspase-independent manner partially through upregulating BNIP3](#)