

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

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**GAPDH Antibody - Product Information**

Application	WB, IF, 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**

WB~~1:2000~10000

IF~~1:25

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****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

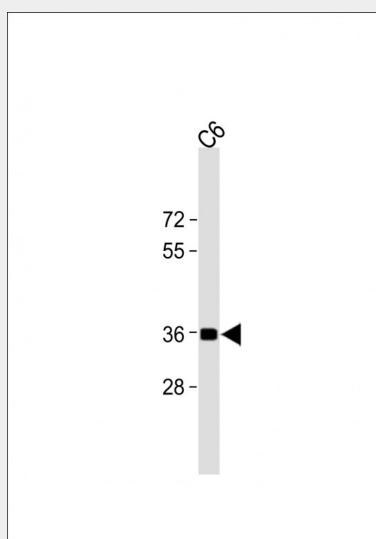
Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:P04797}. Cytoplasm, perinuclear region. Membrane Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797} Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity).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

### GAPDH Antibody - Protocols

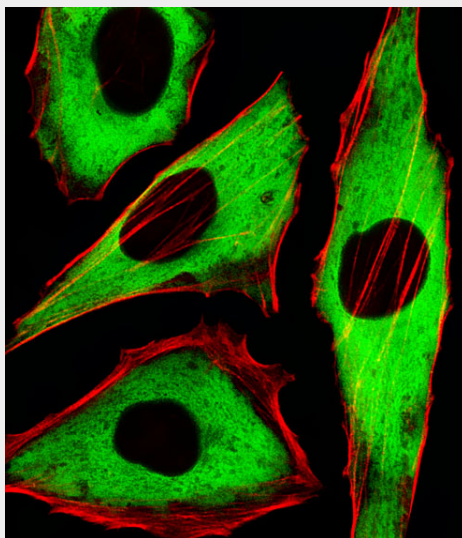
Provided below are standard protocols that you may find useful for product applications.

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

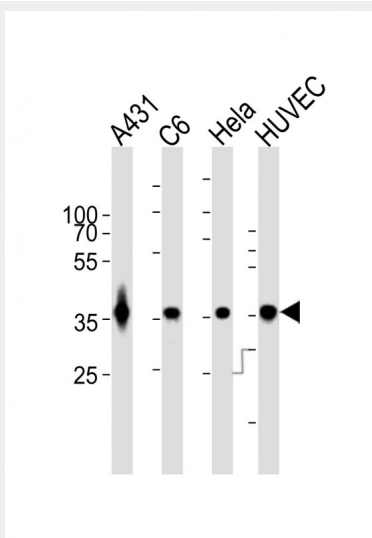
### GAPDH Antibody - Images



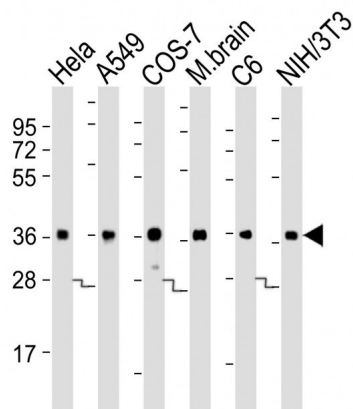
All lanes: Anti-GAPDH Antibody at 1:1000 dilution + C6 whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/15000 dilution. Observed band size: 36KDa Blocking/Dilution buffer: 5% NFDM/TBST.



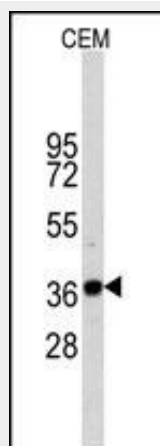
Fluorescent image of HeLa cells stained with XAF1 GAPDH Antibody(Cat#AM1020b). AM1020b was diluted at 1:25 dilution. An Alexa Fluor® 488-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with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



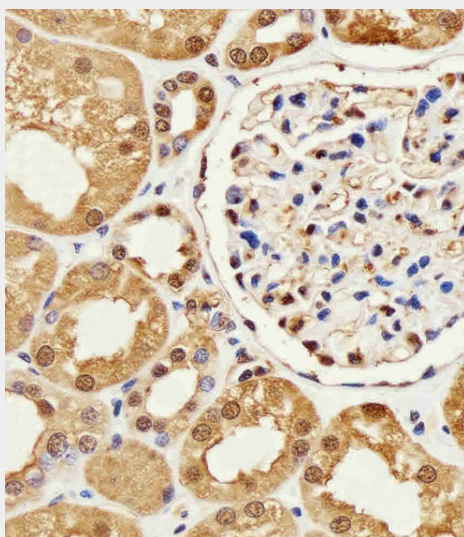
All lanes : Anti-GAPDH Antibody at 1:1000 dilution Lane 1: A431 whole cell lysates Lane 2: C6 whole cell lysates Lane 3: HeLa whole cell lysates Lane 4: HUVEC whole cell lysates Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



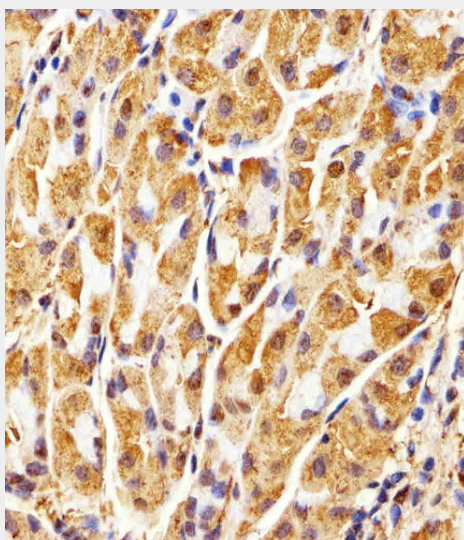
All lanes : Anti-GAPDH Antibody at 1:8000 dilution Lane 1: HeLa whole cell lysates Lane 2: A549 whole cell lysates Lane 3: COS-7 whole cell lysates Lane 4: mouse brain lysates Lane 5: C6 whole cell lysates Lane 6: NIH/3T3 whole cell lysates Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-mouse 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 (35 $\mu$ g/lane). GAPDH(arrow) was detected using the purified Mab.



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**

- [CDK4/6 inhibitor palbociclib promotes SARS-CoV-2 cell entry by down-regulating SKP2 dependent ACE2 degradation](#)
- [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](#)
- [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/ \$\beta\$ -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](#)
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- [Induction of mTOR-dependent autophagy by WS nanosheets from both inside and outside of human cells](#)
- [An in vitro model of foam cell formation induced by a stretchable microfluidic device](#)
- [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.](#)
- [SC06, a novel small molecule compound, displays preclinical activity against multiple myeloma by disrupting the mTOR signaling pathway.](#)
- [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.](#)