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GAPDH Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7873a

Specification

GAPDH Antibody (N-term) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	P04406
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**62-91**

GAPDH Antibody (N-term) - Additional Information

Gene ID 2597

Other Names
Glyceraldehyde-3-phosphate dehydrogenase, GAPDH, Peptidyl-cysteine S-nitrosylase GAPDH, 2699-, GAPDH, GAPD

Target/Specificity
This GAPDH antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 62-91 amino acids from the N-terminal region of human GAPDH.

Dilution
IF~~1:10~50
WB~~1:1000
IHC-P~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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 (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

GAPDH Antibody (N-term) - 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

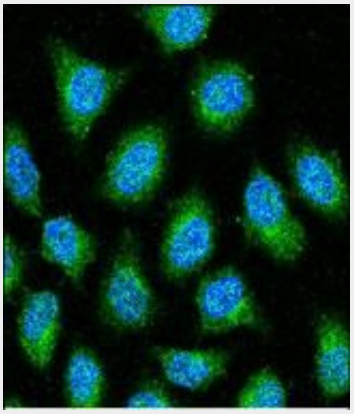
Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:P04797}. Cytoplasm, perinuclear region. Membrane Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797} Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity).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

GAPDH Antibody (N-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GAPDH Antibody (N-term) - Images



GAPDH Antibody (N-term) (Cat. # AP7873a) confocal immunofluorescent analysis with Hela cell.

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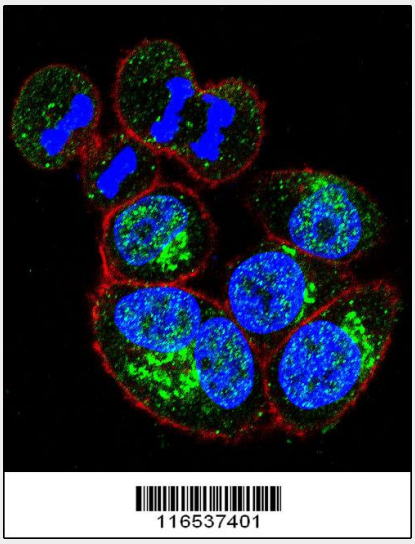
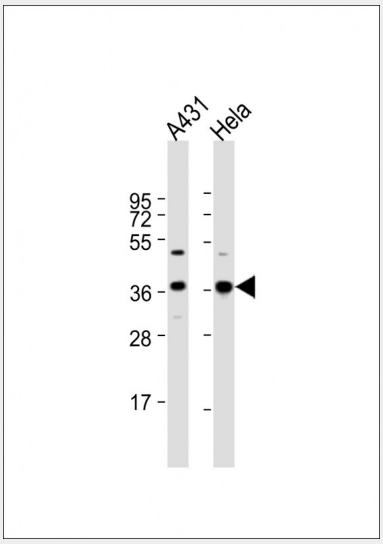
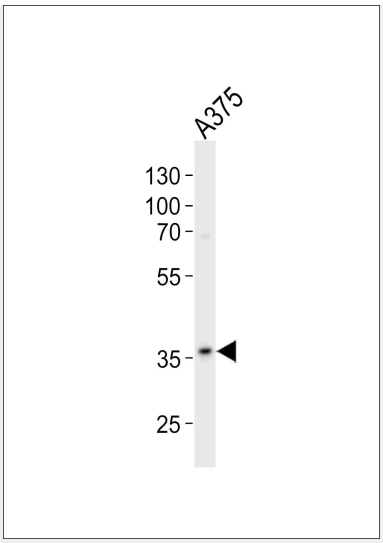
0.025 mg/ml primary antibody was followed by FITC-conjugated goat anti-rabbit IgG (whole molecule). FITC emits green fluorescence. DAPI was used to stain the cell nuclear (blue).



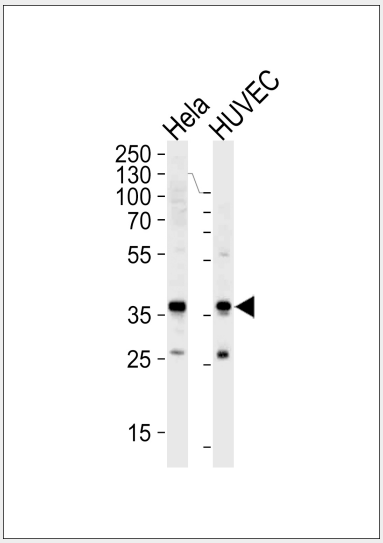
Confocal immunofluorescent analysis of GAPDH Antibody (N-term)(Cat#AP7873a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).DAPI was used to stain the cell nuclear (blue).



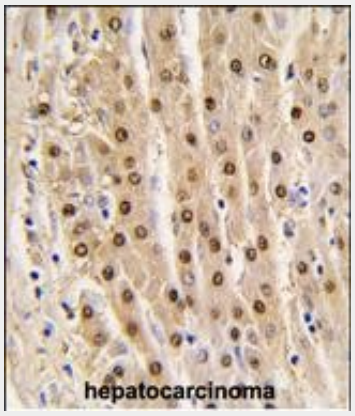
All lanes : Anti-GAPDH Antibody (N-term) at 1:1000 dilution Lane 1: A431 whole cell lysate Lane 2: Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of lysate from A375 cell line, using GAPDH Antibody (N-term)(Cat. #AP7873a). AP7873a was diluted at 1:500. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.



Western blot analysis of lysates from Hela,HUVEC cell line (from left to right),using GAPDH Antibody (N-term)(Cat. #AP7873a).AP7873a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody.Lysates at 35ug per lane.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with GAPDH

antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

GAPDH Antibody (N-term) - Background

GAPDH 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.

GAPDH Antibody (N-term) - References

Azam,S., J. Biol. Chem. 283 (45), 30632-30641 (2008)
Lu,J., Biosci. Biotechnol. Biochem. 72 (9), 2432-2435 (2008)
Zhou,Y., Mol. Cancer Res. 6 (8), 1375-1384 (2008)

GAPDH Antibody (N-term) - Citations

- The role of miR-128-3p through MAPK14 activation in the apoptosis of GC2 spermatocyte cell line following heat stress
- SHOC2 is associated with the survival of breast cancer cells and has prognostic value for patients with breast cancer
- MiR-29b/Sp1/FUT4 axis modulates the malignancy of leukemia stem cells by regulating fucosylation via Wnt/β-catenin pathway in acute myeloid leukemia.
- LINC01296/miR-26a/GALNT3 axis contributes to colorectal cancer progression by regulating O-glycosylated MUC1 via PI3K/AKT pathway.
- Wnt pathway is involved in 5-FU drug resistance of colorectal cancer cells.
- Atorvastatin ameliorates early brain injury through inhibition of apoptosis and ER stress in a rat model of subarachnoid hemorrhage.
- PSMD7 downregulation induces apoptosis and suppresses tumorigenesis of esophageal squamous cell carcinoma the mTOR/p70S6K pathway.
- Migration ability and Toll-like receptor expression of human mesenchymal stem cells improves significantly after three-dimensional culture.
- Proteasome inhibitor MG132 induces thyroid cancer cell apoptosis by modulating the activity of transcription factor FOXO3a.
- microRNA -140-5p inhibits colorectal cancer invasion and metastasis by targeting ADAMTS5 and IGFBP5.
- Increased expression of EHF via gene amplification contributes to the activation of HER family signaling and associates with poor survival in gastric cancer.
- Transient scrotal hyperthermia affects human sperm DNA integrity, sperm apoptosis, and sperm protein expression.
- The Ring Finger Protein RNF6 Induces Leukemia Cell Proliferation as a Direct Target of Pre-B-cell Leukemia Homeobox 1.
- miR-221/222 enhance the tumorigenicity of human breast cancer stem cells via modulation of PTEN/Akt pathway.
- The effect of 3-bromopyruvate on human colorectal cancer cells is dependent on glucose concentration but not hexokinase II expression.
- Prognostic significance of FAM3C in esophageal squamous cell carcinoma.
- Angiopoietin-like 4 enhances metastasis and inhibits apoptosis via inducing bone morphogenetic protein 7 in colorectal cancer cells.
- Elevated kinesin family member 26B is a prognostic biomarker and a potential therapeutic target for colorectal cancer.
- Oxidized low-density lipoprotein is associated with advanced-stage prostate cancer.
- Cell killing and radiosensitizing effects of atorvastatin in PC3 prostate cancer cells.
- MicroRNAs are involved in erythroid differentiation control.