

GAPDH Antibody (C-term R248)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7873b

Product Information

Application	WB, IHC-P, FC, IF
Primary Accession	P04406
Other Accession	P04797 , P00355 , P16858 , P00356
Reactivity	Human
Predicted	Mouse, Rat, Pig, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB16543
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	This GAPDH antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 233-259 amino acids from the C-terminal region of human GAPDH.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 IF~~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 (C-term R248) 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}
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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

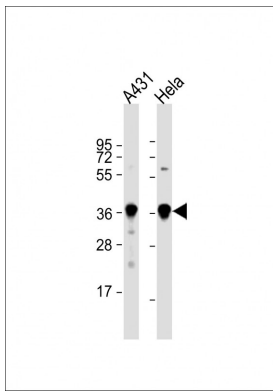
GAPDH catalyzes an important energy-yielding step in carbohydrate metabolism, the reversible oxidative phosphorylation of glyceraldehyde-3-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD). The enzyme exists as a tetramer of identical chains.

References

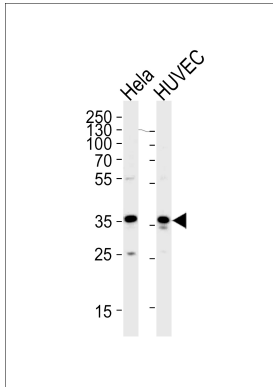
Azam,S., J. Biol. Chem. 283 (45), 30632-30641 (2008)
Lu,J., Biosci. Biotechnol. Biochem. 72 (9), 2432-2435 (2008)
Zhou,Y., Mol. Cancer Res. 6 (8), 1375-1384 (2008)

Images

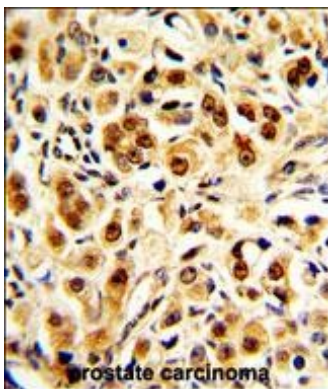
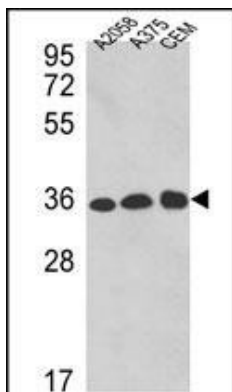
All lanes : Anti-GAPDH Antibody (C-term R248) at 1:1000 dilution Lane 1: A431 whole cell lysate Lane 2: HeLa whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



Western blot analysis of lysates from HeLa, HUVEC cell line (from left to right), using GAPDH Antibody (C-term R248) (Cat. #AP7873b). AP7873b 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.

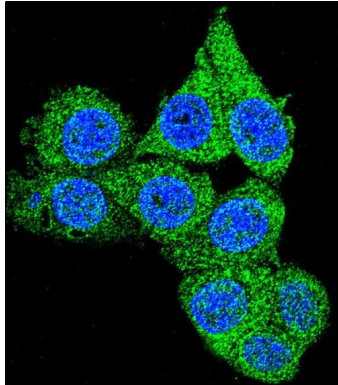
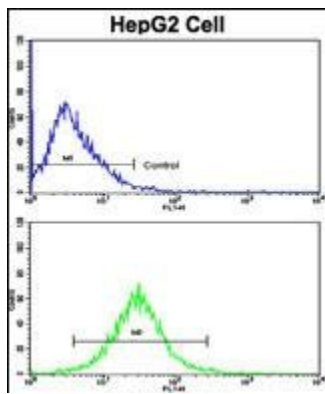


Western blot analysis of GAPDH Antibody (C-term R248) (Cat. #AP7873b) in A2058, A375, CEM cell line lysates (35ug/lane). GAPDH (arrow) was detected using the purified Pab.

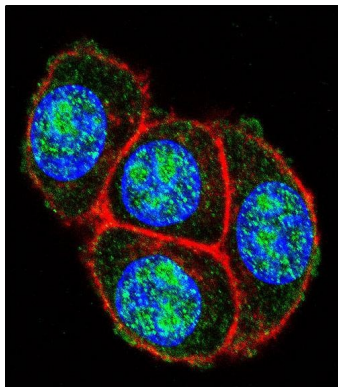


Formalin-fixed and paraffin-embedded human prostate carcinoma with GAPDH Antibody (C-term R248), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Flow cytometric analysis of HepG2 cells using GAPDH Antibody (C-term R248) (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Confocal immunofluorescent analysis of GAPDH Antibody (C-term R248)(Cat#AP7873b) with HepG2 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



Confocal immunofluorescent analysis of GAPDH Antibody (C-term R248)(Cat#AP7873b) with HepG2 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).

Citations

- [An ancient germ cell-specific RNA-binding protein protects the germline from cryptic splice site poisoning.](#)
- [Effects of secreted frizzled-related protein 1 on proliferation, migration, invasion, and apoptosis of colorectal cancer cells.](#)
- [Metalloproteases meprin- \$\alpha\$ \(MEP1A\) is a prognostic biomarker and promotes proliferation and invasion of colorectal cancer.](#)