10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GAPDH Antibody

Catalog # ASC10412

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P04406
Other Accession	P04406, 120649
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	36053
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	GAPDH antibody can be used for the detection of GAPDH by Western blot at 0. 125 - 0.5 g/mL. Antibody can also be used for immunohistochemistry starting at 10 g/mL. For immunofluorescence start at 10 g/mL.

Additional Information

Gene ID	2597
Other Names	GAPDH Antibody: G3PD, GAPD, HEL-S-162eP, CDABP0047, OK/SW-cl.12, Glyceraldehyde-3-phosphate dehydrogenase, Peptidyl-cysteine S-nitrosylase GAPDH, GAPDH, glyceraldehyde-3-phosphate dehydrogenase
Target/Specificity	GAPDH;
Reconstitution & Storage	GAPDH antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
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	Catalyzes the conversion of D-glyceraldehyde 3-phosphate (G3P) into 3-phospho-D-glyceroyl phosphate in glycolysis and the reverse reaction in gluconeogenesis (PubMed:11724794, PubMed:3170585). Also shows nitrosylase activity, thereby playing a role in nuclear functions (PubMed:11724794, PubMed:3170585). 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}

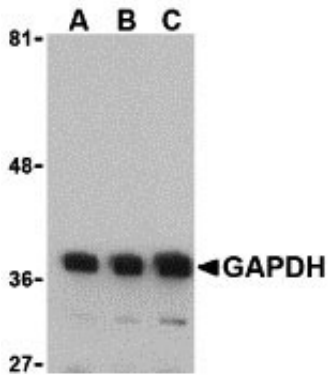
Background

GAPDH Antibody: Glyceraldehyde-3-phosphate dehydrogenase (GAPDH) catalyzes the reversible oxidative phosphorylation of glyceraldehyde-3-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD), an important energy-yielding step in carbohydrate metabolism. Recent evidence suggests that it also is involved in a number of cellular processes such as membrane fusion, phosphotransferase activity, DNA replication and repair, and nuclear RNA export. GAPDH has also been implicated in playing a role in different pathologies such as cancer progression, apoptosis, and neuronal diseases such as Alzheimer's and Huntington's disease. GAPDH is constitutively expressed at high levels in almost all tissues and cell lines making it ideal for use as a loading control marker in immunoblots.

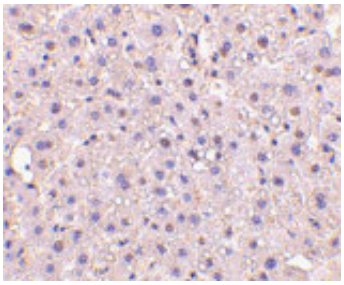
References

Sirover MA. New nuclear functions of the glycolytic protein, glyceraldehyde-3-phosphate dehydrogenase, in mammalian cells. J. Cell. Biochem. 2005; 95:45-52.
Glyceraldehyde-3-phosphate dehydrogenase, apoptosis, and neurodegenerative diseases. Annu. Rev. Pharmacol. Toxicol. 2005; 45:269-90.

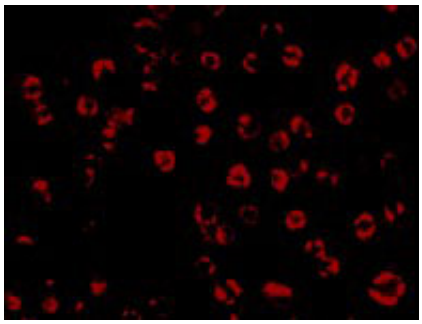
Images



Western blot analysis of GAPDH in HeLa cell lysate with GAPDH antibody at (A) 0.125, (B) 0.25 and (C) 0.5 µg/mL.



Immunohistochemistry of GAPDH in human liver tissue with GAPDH antibody at 10 µg/mL.



Immunofluorescence of GAPDH in HeLa cells with GAPDH antibody at 10 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.