

GAPDH Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP50864

Product Information

Application WB, IHC-P, IHC-F, IF, ICC

Primary Accession P04406

Reactivity Human, Mouse, Rat, Rabbit

HostRabbitClonalityPolyclonalCalculated MW36053

Additional Information

Gene ID 2597

Other Names Glyceraldehyde-3-phosphate dehydrogenase, GAPDH, Peptidyl-cysteine

S-nitrosylase GAPDH, 2699-, GAPDH, GAPD

Dilution WB=1:10000-200000,IHC-P=1:100-500,IHC-F=,ICC=1:100,IF=1:100-500

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

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

FunctionHas both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions,

respectively (PubMed:<u>11724794</u>, PubMed:<u>3170585</u>).

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: 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:<u>23332158</u>, PubMed:<u>27387501</u>). 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}

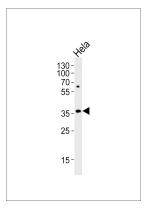
Background

Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively. Participates in nuclear events including transcription, RNA transport, DNA replication and apoptosis. Nuclear functions are probably due to the nitrosylase activity that mediates cysteine S-nitrosylation of nuclear target proteins such as SIRT1, HDAC2 and PRKDC. Modulates the organization and assembly of the cytoskeleton. Facilitates the CHP1-dependent microtubule and membrane associations through its ability to stimulate the binding of CHP1 to microtubules (By similarity). 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. Component of the GAIT (gamma interferon- activated inhibitor of translation) complex which mediates interferon-gamma-induced transcript-selective translation inhibition in inflammation processes. 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.

References

Hanauer A., et al.EMBO J. 3:2627-2633(1984). Arcari P., et al.Nucleic Acids Res. 12:9179-9189(1984). Tso J.Y., et al.Nucleic Acids Res. 13:2485-2502(1985). Tokunaga K., et al.Cancer Res. 47:5616-5619(1987). Allen R.W., et al.J. Biol. Chem. 262:649-653(1987).

Images



Western blot analysis of lysate from Hela cell line, using GAPDH Antibody(AP50864). AP50864 was diluted at 1:500. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35 ug.

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