

Anti-GAPDH Picoband Antibody

Catalog # ABO10041

Product Information

Application	WB, IHC-P
Primary Accession	P04406
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Glyceraldehyde-3-phosphate dehydrogenase(GAPDH) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2597
Other Names	Glyceraldehyde-3-phosphate dehydrogenase, GAPDH, 1.2.1.12, Peptidyl-cysteine S-nitrosylase GAPDH, 2.6.99.-, GAPDH, GAPD
Calculated MW	36053
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 μ g/ml, Human, By Heat Western blot, 0.1-0.5 μ g/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm, cytosol . Nucleus . Cytoplasm, perinuclear region . Membrane . Cytoplasm, cytoskeleton . Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity). Postnuclear and Perinuclear regions. .
Source	Eukaryota
Protein Name	Glyceraldehyde-3-phosphate dehydrogenase
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Immunogen	E.coli-derived human GAPDH recombinant protein (Position: N136-E335). Human GAPDH shares 95% and 94.5% amino acid (aa) sequence identity with mouse and rat GAPDH, respectively.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20 °C for one year. After r ° Constitution, at 4 °C for one month. It ° Can also be aliquotted and stored frozen at -20 °C for a longer time.Avoid repeated freezing and thawing.

Protein Information

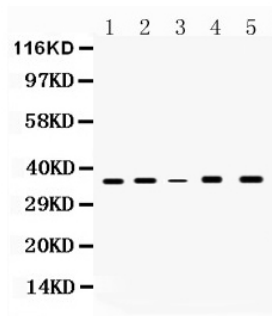
Name	GAPDH {ECO:0000303 PubMed:2987855, ECO:0000312 HGNC:HGNC:4141}
Function	Catalyzes the conversion of D-glyceraldehyde 3-phosphate (G3P) into 3-phospho-D-glyceroyl phosphate in glycolysis and the reverse reaction in gluconeogenesis (PubMed: 11724794 , PubMed: 3170585). Also shows nitrosylase activity, 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

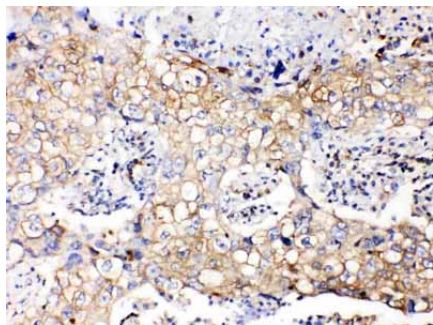
Glyceraldehyde 3-phosphate dehydrogenase (abbreviated as GAPDH or less commonly as G3PDH) is an enzyme of ~37kDa that catalyzes the sixth step of glycolysis and thus serves to break down glucose for energy and carbon molecules. This gene encodes a member of the glyceraldehyde-3-phosphate dehydrogenase protein family. GAPDH is mapped to 12p13.31. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. 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 encoded protein has additionally been identified to have uracil DNA glycosylase activity in the nucleus.

Images

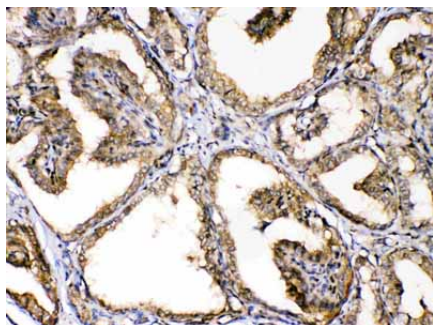
Western blot analysis of GAPDH expression in rat brain extract (lane 1), rat kidney extract (lane 2), mouse kidney



extract (lane 3), HELA whole cell lysates (lane 4) and MCF-7 whole cell lysates (lane 5). GAPDH at 36KD was detected using rabbit anti- GAPDH Antigen Affinity purified polyclonal antibody (Catalog #ABO10041) at 0.5 μ g/mL. The blot was developed using chemiluminescence (ECL) method .



GAPDH was detected in paraffin-embedded sections of human lung cancer tissues using rabbit anti- GAPDH Antigen Affinity purified polyclonal antibody (Catalog # ABO10041) at 1 μ g/mL. The immunohistochemical section was developed using SABC method .



GAPDH was detected in paraffin-embedded sections of human thyroid cancer tissues using rabbit anti- GAPDH Antigen Affinity purified polyclonal antibody (Catalog # ABO10041) at 1 μ g/mL. The immunohistochemical section was developed using SABC method .

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