

**GAPDH Antibody (clone 4G5)**  
**Mouse Monoclonal Antibody**  
**Catalog # ALS16361****Specification**

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**GAPDH Antibody (clone 4G5) - Product Information**

Application	WB, IHC-P, IF, E, IP, IHC-F
Primary Accession	<a href="#">P04406</a>
Reactivity	Human, Mouse, Rat, Rabbit, Pig, Goat, Bovine, Fish, Dog, Cat
Host	Mouse
Clonality	Monoclonal
Calculated MW	36kDa KDa
Dilution	WB~~1:1000 IHC-P~~N/A IF~~1:50~200 E~~N/A IP~~N/A IHC-F~~N/A

**GAPDH Antibody (clone 4G5) - 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**Target/Specificity**

Recognizes glyceraldehyde-3-phosphate dehydrogenase (GAPDH), a 36kD multifunctional protein whose main function is to catalyze the reversible oxidative phosphorylation of glyceraldehyde-3-phosphate, in conjunction with inorganic phosphate and nicotin ...

**Reconstitution & Storage**

+4°C or -20°C, Avoid repeated freezing and thawing.

**Precautions**

GAPDH Antibody (clone 4G5) is for research use only and not for use in diagnostic or therapeutic procedures.

**GAPDH Antibody (clone 4G5) - 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:&lt;a href="http://www.uniprot.org/citations/11724794" target="\_blank"&gt;11724794&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/11724794" target="\_blank"&gt;11724794&lt;/a&gt;)

[3170585](http://www.uniprot.org/citations/3170585)). Also shows nitrosylase activity, thereby playing a role in nuclear functions (PubMed:[11724794](http://www.uniprot.org/citations/11724794), PubMed:[3170585](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/23332158), PubMed:[27387501](http://www.uniprot.org/citations/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

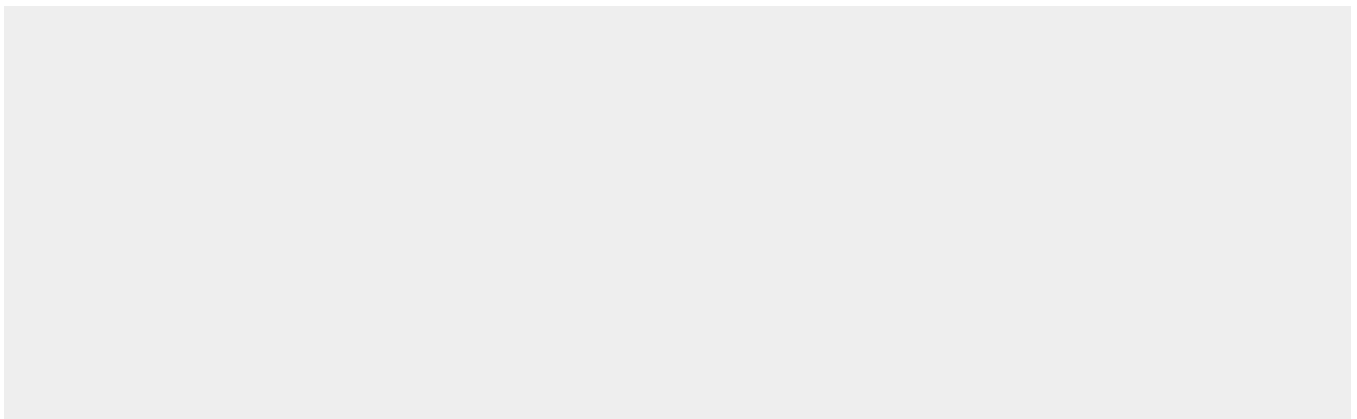
Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:P04797}. Cytoplasm, perinuclear region. Membrane Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797} Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity).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

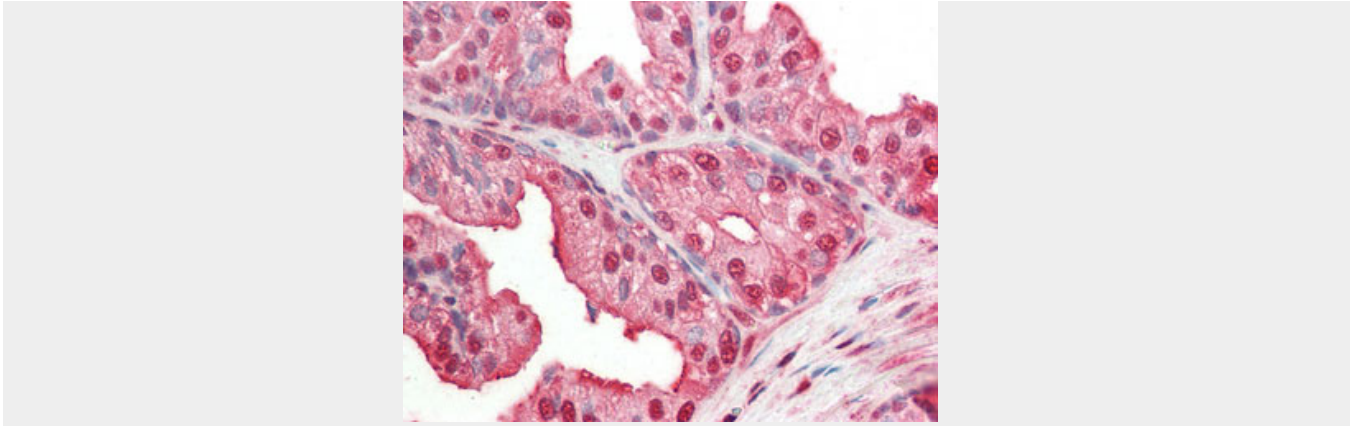
#### GAPDH Antibody (clone 4G5) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### GAPDH Antibody (clone 4G5) - Images





Human Prostate: Formalin-Fixed, Paraffin-Embedded (FFPE)

### **GAPDH Antibody (clone 4G5) - 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.

### **GAPDH Antibody (clone 4G5) - 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).