

**Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody****GAPDH Antibody**  
**Catalog # ASR4173****Specification**

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**Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody - Product Information**

Host	<b>Mouse</b>
Conjugate	<b>Unconjugated</b>
Target Species	<b>Rabbit</b>
Reactivity	<b>Human, Mouse, Rabbit</b>
Clonality	<b>Monoclonal</b>
Application	<b>WB, IHC, E, IP, I, LCI</b>
Application Note	<b>Anti-GAPDH (Mouse) has been tested in ELISA and western blot. This product is suitable in IHC and IF. Specific conditions should be optimized by the end user. Expect a band of ~38kDa in size corresponding to Glyceraldehyde 3-Phosphate Dehydrogenase protein by Western blot in the appropriate cell lysate or extract.</b>
Physical State	<b>Liquid (sterile filtered)</b>
Buffer	<b>0.1 M Tris Chloride, 0.5 M Sodium Chloride, pH 8.0</b>
Immunogen	<b>Anti-GAPDH Monoclonal Antibody was produced by repeated immunizations in mice with rabbit GAPDH protein.</b>
Preservative	<b>0.1% (w/v) Sodium Azide</b>

**Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody - Additional Information****Gene ID** 100009074**Other Names**  
100009074**Purity**

Anti-GAPDH Monoclonal Antibody is directed against rabbit Glyceraldehyde-3-Phosphate Dehydrogenase. The antibody is a total IgM fraction prepared from ascites fluid by selective precipitation and tandem molecular sieve chromatography followed by extensive dialysis against the buffer stated above. Anti-GAPDH antibodies are expected to react with the following species based on 100% sequence homology: rabbit, human, and mouse. Reactivity against other sources is not known.

**Storage Condition**

Store vial at -20° C prior to opening. This product is stable at 4° C as an undiluted liquid. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and

thawing. Dilute only prior to immediate use.

#### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

### Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody - Protein Information

**Name** GAPDH

**Synonyms** GAPD

#### Function

Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively. 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 (By similarity). 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). 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. 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 (By similarity). 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 (By similarity).

#### Cellular Location

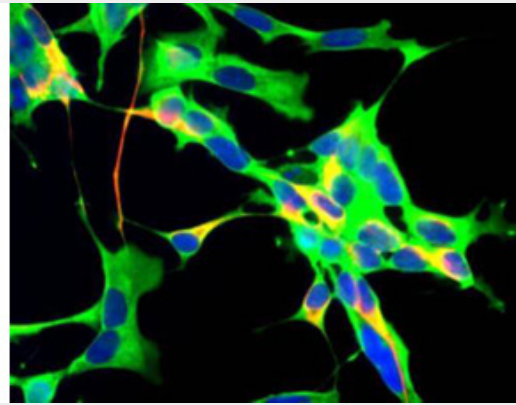
Cytoplasm, cytosol {ECO:0000250|UniProtKB:P04797}. Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797}. Nucleus {ECO:0000250|UniProtKB:P04797}  
Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal Colocalizes with CHP1 to small punctate structures along the microtubules tracks. {ECO:0000250|UniProtKB:P04797}

### Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody - 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](#)

### Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody - Images



Immunofluorescence Microscopy of Mouse Anti-Glyceraldehyde 3-Phosphate Dehydrogenase Antibody. Tissue: Human neuroblastoma SH-SY5Y cells. Fixation: 0.5% PFA. Antigen retrieval: not required. Primary antibody: GAPDH antibody at 10 µg/mL for 1 h at RT. Secondary antibody: Fluorescein mouse secondary antibody at 1:10,000 for 45 min at RT. Localization: GAPDH is cytoplasmic. Staining: Anti-GAPDH (green), chicken antibody to neurofilament NF-H (red) and DNA (blue).

#### **Anti-Glyceraldehyde-3-Phosphate Dehydrogenase (GAPDH) (Mouse) Monoclonal Antibody - Background**

GAPDH Loading Control Monoclonal Antibody detects Glyceraldehyde-3-Phosphate Dehydrogenase. GAPDH is a metabolic enzyme responsible for catalyzing one step in the glycolytic pathway, the reversible oxidative phosphorylation of glyceraldehyde 3-phosphate. Because GAPDH is a protein expressed in large amounts and which is required at all times for important "house keeping" functions, levels of GAPDH mRNA are often measured and used as standards in studies of mRNA expression. Increasingly, scientists are making use of specific antibodies to GAPDH in comparable studies of levels of protein expression. Apart from a role in glycolysis, GAPDH may have other roles such as in the activation of transcription. GAPDH is reported to bind to a variety of other proteins, including the amyloid precursor protein, mutations in which cause some forms of Alzheimer's disease, and the polyglutamine tracts of Huntingtin, the protein product aberrant forms of which are causative of Huntington's disease. Associations with actin and tubulin have also been reported. The protein may also have a role in the regulation of apoptosis, and interestingly migrates from the cytoplasm into the nucleus when cells become apoptotic. Anti-GAPDH antibody is widely used as a loading control for western blotting experiments, allowing comparison between the level of this protein and others in a cell or tissue and is ideal for Neuroscience, Cell Signaling and Cancer Research.