

**Goat Anti-GAPDH (Internal) Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF1464b****Specification**

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**Goat Anti-GAPDH (Internal) Antibody - Product Information**

Application	WB, IHC, IF, Pep-ELISA
Primary Accession	<a href="#">P04406</a>
Other Accession	<a href="#">NP_002037</a> , <a href="#">2597</a>
Reactivity	Human, Mouse, Rat
Predicted	Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	36053

**Goat Anti-GAPDH (Internal) Antibody - 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**Dilution**WB~~1:1000  
IHC~~1:100~500  
IF~~1:50~200  
Pep-ELISA~~N/A**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-GAPDH (Internal) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-GAPDH (Internal) Antibody - Protein Information****Name** GAPDH {ECO:0000303|PubMed:2987855, ECO:0000312|HGNC:HGNC:4141}

### Function

Has both glyceraldehyde-3-phosphate dehydrogenase and nitrosylase activities, thereby playing a role in glycolysis and nuclear functions, respectively (PubMed:<a href="http://www.uniprot.org/citations/11724794" target="\_blank">11724794</a>, PubMed:<a href="http://www.uniprot.org/citations/3170585" target="\_blank">3170585</a>). 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:<a href="http://www.uniprot.org/citations/11724794" target="\_blank">11724794</a>, PubMed:<a href="http://www.uniprot.org/citations/3170585" target="\_blank">3170585</a>). 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:<a href="http://www.uniprot.org/citations/23071094" target="\_blank">23071094</a>). 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:<a href="http://www.uniprot.org/citations/23071094" target="\_blank">23071094</a>). 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:<a href="http://www.uniprot.org/citations/23332158" target="\_blank">23332158</a>, PubMed:<a href="http://www.uniprot.org/citations/27387501" target="\_blank">27387501</a>). 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

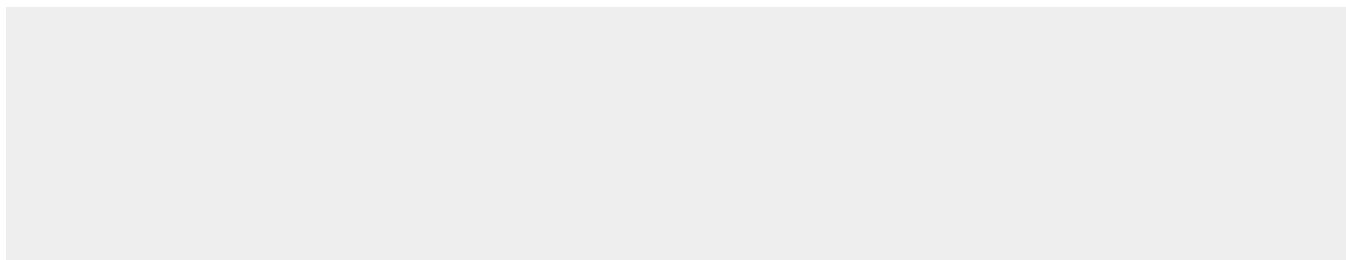
Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:P04797}. Cytoplasm, perinuclear region. Membrane Cytoplasm, cytoskeleton {ECO:0000250|UniProtKB:P04797} Note=Translocates to the nucleus following S-nitrosylation and interaction with SIAH1, which contains a nuclear localization signal (By similarity).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

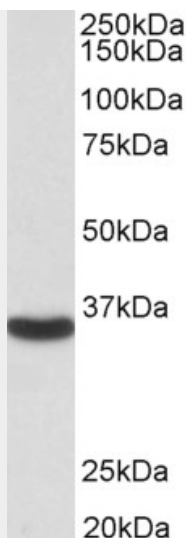
### Goat Anti-GAPDH (Internal) Antibody - Protocols

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

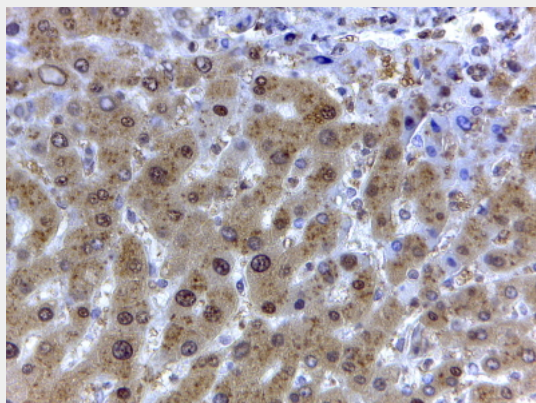
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Goat Anti-GAPDH (Internal) Antibody - Images

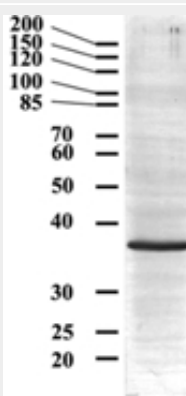




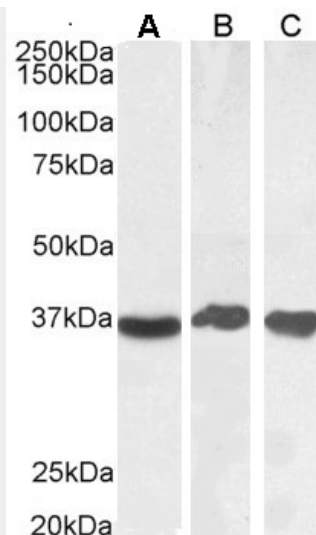
AF1464b (0.1 µg/ml) staining of Human Liver lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



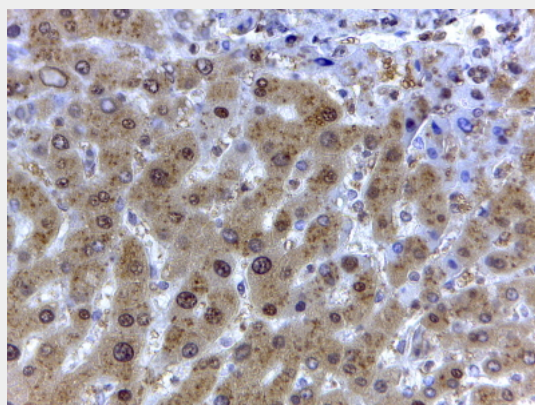
AF1464b (2 µg/ml) staining of paraffin embedded Human Liver. Steamed antigen retrieval with citrate buffer pH 6, HRP-staining.



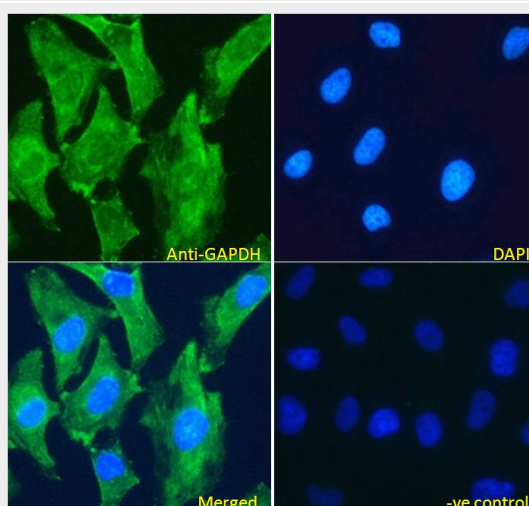
AF1464b (0.5 µg/ml) staining of Rat Liver lysate (35 µg protein in RIPA buffer). Primary incubation was overnight. Detected by alkaline phosphatase (NBT/BCIP). Data provided by Dr. I. Sabolic, Institute for Medical Research and Occupational Health, Zagreb, Croatia.



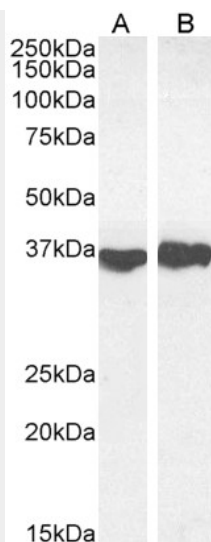
EB07069 (0.1 $\mu$ g/ml) staining of Human Liver (A), (0.03 $\mu$ g/ml) Testes (B) and Tonsil (C) lysate (35 $\mu$ g protein in RIPA buffer). Detected by chemiluminescence.



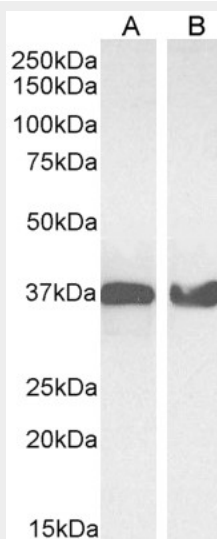
EB07069 (2 $\mu$ g/ml) staining of paraffin embedded Human Liver. Steamed antigen retrieval with citrate buffer pH 6, HRP-staining.



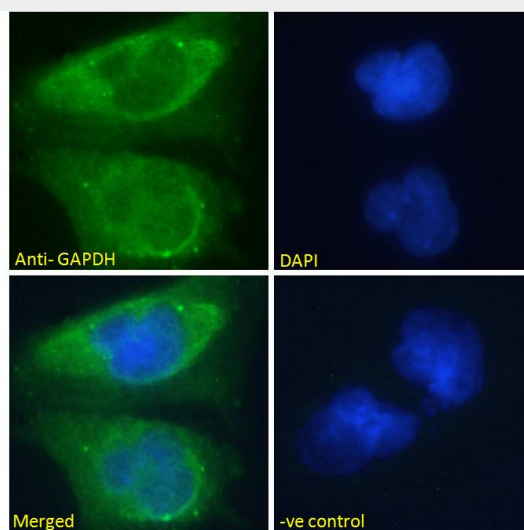
EB07069 Immunofluorescence analysis of paraformaldehyde fixed HeLa cells, permeabilized with 0.15% Triton. Primary incubation 1hr (5 $\mu$ g/ml) followed by Alexa Fluor 488 secondary antibody (2 $\mu$ g/ml), showing cytoplasmic and plasma membrane staining. The nucle



EB07069 (0.1 $\mu$ g/ml) staining of Mouse Liver (A) and (0.03 $\mu$ g/ml) Rat Heart (B) lysate (35 $\mu$ g protein in RIPA buffer). Detected by chemiluminescence.



EB07069 (0.03 $\mu$ g/ml) staining of HeLa (A) and NIH3T3 (B) cell lysate (35 $\mu$ g protein in RIPA buffer). Detected by chemiluminescence



EB07069 Immunofluorescence analysis of paraformaldehyde fixed U251 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing cytoplasmic and vesicle staining. The nuclear stai

#### **Goat Anti-GAPDH (Internal) Antibody - Background**

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 enzyme exists as a tetramer of identical chains. Many pseudogenes similar to this locus are present in the human genome.

#### **Goat Anti-GAPDH (Internal) Antibody - References**

Inhibition of glyceraldehyde-3-phosphate dehydrogenase activity by antibodies present in the cerebrospinal fluid of patients with multiple sclerosis. K $\ddot{u}$ lln J, et al. J Immunol, 2010 Aug 1. PMID 20610654.

Proteome analysis of the thalamus and cerebrospinal fluid reveals glycolysis dysfunction and potential biomarkers candidates for schizophrenia. Martins-de-Souza D, et al. J Psychiatr Res, 2010 May 14. PMID 20471030.

Sex-specific proteome differences in the anterior cingulate cortex of schizophrenia.

Martins-de-Souza D, et al. J Psychiatr Res, 2010 Apr 8. PMID 20381070.

Identification of melanoma antigens using a Serological Proteome Approach (SERPA). Suzuki A, et al. Cancer Genomics Proteomics, 2010 Jan-Feb. PMID 20181627.

siah-1 Protein is necessary for high glucose-induced glyceraldehyde-3-phosphate dehydrogenase nuclear accumulation and cell death in Muller cells. Yego EC, et al. J Biol Chem, 2010 Jan 29. PMID 19940145.