

# GAPDH

rev. 20/01/18  
Cat#: ER1706-83

**Product Type:** Rabbit Polyclonal IgG, primary antibodies

**Species reactivity:** Human, Mouse, Rat

**Applications:** WB, ICC, IHC, FC

**Molecular Wt.:** 36 kDa

**Description:** 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.

**Immunogen:** Peptide.

**Positive control:**

PC-12, L929, NIH/3T3, F9, mouse liver tissue lysate, human tonsil tissue, human pancreas tissue, mouse testis tissue, MCF-7.

**Subcellular location:**

Cytoskeleton. Cytosol. Nucleus.

**Database links:**

SwissProt: P04406 (Human) P16858 (Mouse) P04797 (Rat)

**Recommended Dilutions:**

**WB:** 1:2,000-5,000                      **ICC:** 1:50-1:200  
**IHC:** 1:50-1:200                         **FC:** 1:50-1:100

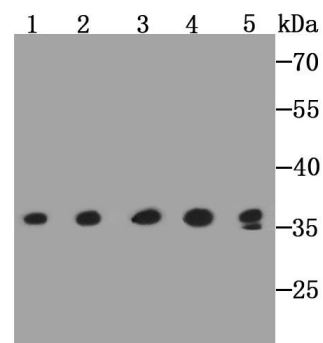
**Storage Buffer:**

1\*TBS (pH7.4), 1%BSA, 50%Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:**

Store at +4° C after thawing. Aliquot store at -20° C or -80° C. Avoid repeated freeze / thaw cycles.

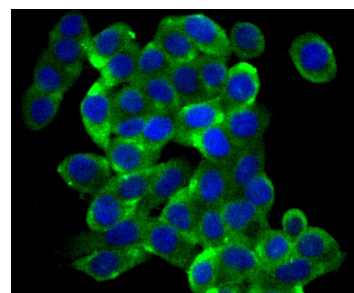
**Purity:** Peptide affinity purified.



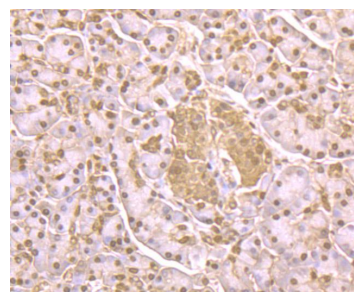
**Fig1:** Western blot analysis of GAPDH on different lysates using anti-GAPDH antibody at 1/2,000 dilution.

**Positive control:**

**Lane1: PC-12**                                 **Lane2: L929**  
**Lane3: NIH/3T3**                             **Lane4: F9**  
**Lane5: Mouse liver tissue**



**Fig2:** ICC staining GAPDH in LOVO cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.



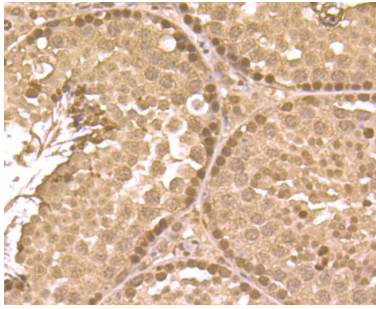
**Fig3:** Immunohistochemical analysis of paraffin-embedded human pancreas tissue using anti-GAPDH antibody. Counter stained with hematoxylin.

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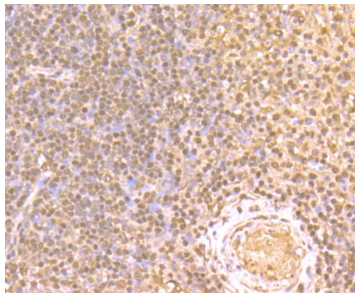
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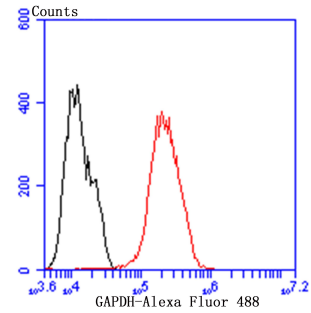
Applications: WB=Western blot IP=Immunoprecipitation IHC=Immunohistochemistry IF=Immunofluorescence FC=Flow cytometry  
Species Cross-Reactivity: H=human M=mouse R=rat Hm=hamster Mk=monkey Mi=mink C=chicken Dm=D.melanogaster X=Xenopus Z=zebrafish  
B=bovine Dg=dog Pg=pig Sc=S.



**Fig4:** Immunohistochemical analysis of paraffin-embedded mouse testis tissue using anti-GAPDH antibody. Counter stained with hematoxylin.



**Fig5:** Immunohistochemical analysis of paraffin-embedded human tonsil tissue using anti-GAPDH antibody. Counter stained with hematoxylin.



**Fig6:** Flow cytometric analysis of MCF-7 cells with GAPDH antibody at 1/50 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black). Alexa Fluor 488-conjugated goat anti rabbit IgG was used as the secondary antibody.

#### Background References

1. Tisdale EJ. Glyceraldehyde-3-phosphate dehydrogenase is phosphorylated by protein kinase C $\alpha$  / $\lambda$  and plays a role in microtubule dynamics in the early secretory pathway. *J. Biol. Chem.* 277:3334-3341 (2002).
2. Arif A et al. Heterotrimeric GAIT complex drives transcript-selective translation inhibition in murine macrophages. *Mol. Cell. Biol.* 32:5046-5055 (2012).

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Applications: WB=Western blot IP=Immunoprecipitation IHC=Immunohistochemistry IF=Immunofluorescence FC=Flow cytometry  
 Species Cross-Reactivity: H=human M=mouse R=rat Hm=hamster Mk=monkey Mi=mink C=chicken Dm=D.melanogaster X=Xenopus Z=zebrafish  
 B=bovine Dg=dog Pg=pig Sc=S.