abcam

ab215227

Alexa Fluor® 647 Anti-GAPDH antibody [EPR6256]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR6256
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	1/1000
Notes	This product gave a positive signal in HeLa cells fixed with 100% methanol (5 min)

Predicted

Species	African green monkey
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	African green monkey
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	African green monkey
Dilution info	-
Notes	-

Target data

See full target information GAPDH

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Stable for 12 months at -20°C, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Glyceraldehyde-3-phosphate dehydrogenase commonly known as GAPDH is an enzyme involved in glycolysis. Its molecular weight (MW) is approximately 36 kDa. The protein is expressed ubiquitously in almost all tissues reflecting its essential role in energy production. GAPDH catalyzes the sixth step of glycolysis converting glyceraldehyde-3-phosphate into 13-bisphosphoglycerate. Due to its stable expression researchers often use GAPDH as a loading control in western blot experiments.
Biological function summary	GAPDH serves important metabolic functions beyond its enzymatic role in glycolysis. It functions as part of a multi-enzyme complex within the cytoplasm which facilitates efficient substrate channeling during glycolysis. Additionally GAPDH has non-glycolytic roles including involvement in nuclear processes like RNA export and DNA repair. Its ubiquitous presence across different cellular compartments indicates its multiple functions beyond metabolic pathways.
Pathways	GAPDH integrates into significant cellular functions like the glycolytic pathway and apoptotic pathways. In glycolysis GAPDH collaborates with enzymes like phosphoglycerate kinase forming a cohesive link in the energy conversion chain. Its participation in apoptotic pathways highlights GAPDH's involvement in cellular death processes interacting with proteins like Bcl-2 to influence apoptosis progression. These roles reinforce its presence in central metabolic and regulatory pathways.
Associated diseases and disorders	GAPDH has associations with neurodegenerative diseases and cancer. In neurodegenerative disorders such as Alzheimer's disease GAPDH’s altered

enzymatic activity is frequently observed influencing cellular energy homeostasis. Moreover overexpression or aberrant regulation of GAPDH relates to cancer cell proliferation and metastasis implicating proteins like p53 in these pathways. The diverse functions and interactions of GAPDH emphasize its importance in both normal cellular function and disease states.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

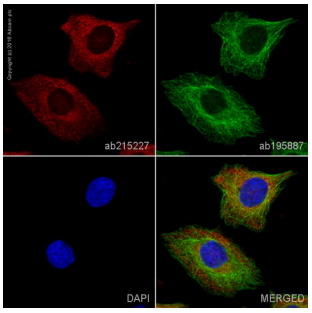
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-GAPDH antibody [EPR6256] (ab215227)

GAPDH Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GAPDH antibody

ab215227 staining GAPDH in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab215227 at 1/1000 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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