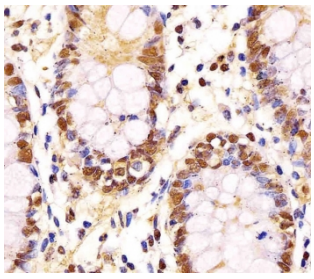
GAPDH Antibody [clone 1653CT614.35.51] (F54490)

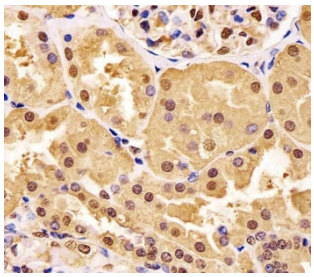
Catalog No.	Formulation	Size
F54490-0.2ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.2 ml
F54490-0.05ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.05 ml

Bulk quote request

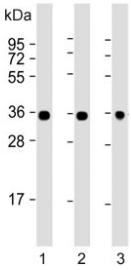
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	IgG1, kappa
Clone Name	1653CT614.35.51
Purity	Protein G affinity
UniProt	P04406
Localization	Cytoplasmic, nuclear
Applications	Western Blot : 1:500-1:2000 Flow Cytometry : 1:25 (1x10e6 cells) Immunohistochemistry (FFPE) : 1:25
Limitations	This GAPDH antibody is available for research use only.



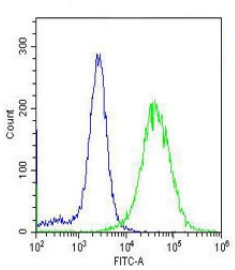
IHC testing of FFPE human colon tissue with GAPDH antibody. HIER: steam section in pH6 citrate buffer for 20 min and allow to cool prior to staining.



IHC testing of FFPE human kidney tissue with GAPDH antibody. HIER: steam section in pH6 citrate buffer for 20 min and allow to cool prior to staining.



Western blot testing of human 1) HeLa, 2) Jurkat and 3) A549 cell lysate with GAPDH antibody. Predicted molecular weight ~36 kDa.



Flow cytometry testing of fixed and permeabilized human HeLa cells with GAPDH antibody; Blue=isotype control, Green= GAPDH antibody.

Description

GAPDH antibody is a valuable tool for research into neurodegeneration, apoptosis, and stress responses. The encoded protein, glyceraldehyde 3 phosphate dehydrogenase (GAPDH), is primarily known as a glycolytic enzyme, but it also plays major roles outside metabolism. Under oxidative stress, GAPDH translocates to the nucleus, where it interacts with proteins involved in DNA repair and apoptosis. This non glycolytic role has been implicated in neurodegenerative conditions including Alzheimer disease, Parkinson disease, and Huntington disease.

In neurons, GAPDH participates in vesicle transport, cytoskeletal regulation, and mitochondrial dynamics. Altered GAPDH expression or modification contributes to excitotoxicity and neuronal death. Antibody based detection of GAPDH allows researchers to monitor its localization, expression, and modification state under stress conditions. This is particularly relevant for understanding mechanisms of cell death in neurodegeneration.

GAPDH has also been associated with protein aggregation, where it interacts with misfolded proteins in disease models. These interactions may exacerbate pathology by disrupting normal metabolic and signaling functions. The GAPDH antibody is therefore used to study both metabolic and pathological aspects of this multifunctional protein.

Structurally, GAPDH is a conserved tetramer with catalytic cysteine residues and NAD binding sites. It is susceptible to oxidative modifications that alter its localization and activity. These modifications are detectable using antibody based approaches in cellular and animal models.

The GAPDH antibody is widely used in immunofluorescence, immunohistochemistry, western blotting, and ELISA to study neuronal systems and stress responses. For scientists focused on neurodegeneration, apoptosis, or oxidative stress biology, the GAPDH antibody provides a reliable detection tool. NSJ Bioreagents offers validated antibodies that ensure reproducibility and accuracy in advanced neurobiological studies.

Application Notes

The stated application concentrations are suggested starting points. Titration of the GAPDH antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Recombinant human protein was used as the immunogen for the GAPDH antibody.

Storage

Aliquot the GAPDH antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.