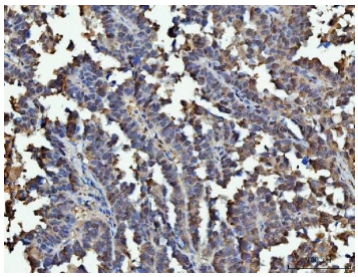
GAPDH Antibody (R32661)

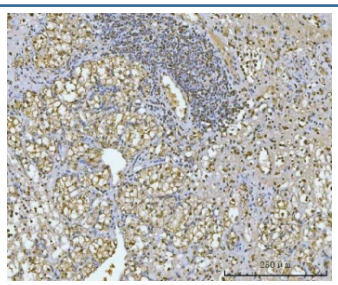
Catalog No.	Formulation	Size
R32661	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

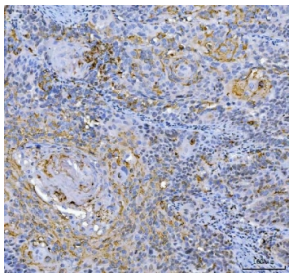
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P04406
Localization	Cytoplasmic, nuclear
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This GAPDH antibody is available for research use only.



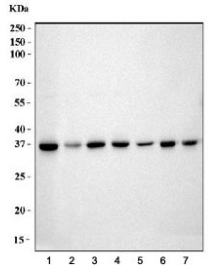
IHC staining of FFPE human ovarian serous cancer tissue with GAPDH antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human renal clear cell carcinoma tissue with GAPDH antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human laryngeal squamous cell carcinoma tissue with GAPDH antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) human HeLa, 2) human Caco-2, 3) human CCRF-CEM, 4) rat brain, 5) rat liver, 6) mouse brain and 7) mouse liver lysate with GAPDH antibody. Predicted molecular weight ~36 kDa.

Description

GAPDH antibody is an important reagent for studying metabolism, energy regulation, and glycolytic pathways. The encoded protein, glyceraldehyde 3 phosphate dehydrogenase (GAPDH), is a central enzyme in glycolysis that catalyzes the sixth step of glucose breakdown. Its role in producing ATP and NADH links it directly to cellular energy homeostasis.

GAPDH is expressed at high levels in most tissues, reflecting the universal demand for glycolysis. In rapidly dividing cells, GAPDH expression is elevated to support anabolic growth and biosynthetic demands. Cancer cells, in particular, upregulate GAPDH as part of the Warburg effect, highlighting its significance in tumor metabolism. Detection with GAPDH antibody enables researchers to monitor glycolytic activity and metabolic adaptation in diverse disease contexts.

Beyond its role in glycolysis, GAPDH influences metabolic signaling pathways. It interacts with proteins involved in glucose sensing, mitochondrial function, and apoptosis. GAPDH can translocate to the mitochondria or nucleus during stress, linking metabolic flux to cell survival decisions. This dual role in energy production and signaling makes GAPDH a hub in cell biology.

Structurally, GAPDH consists of four identical subunits, each with catalytic and NAD binding domains. Its conserved architecture explains why GAPDH antibody can detect the protein in multiple organisms, including human, mouse, and yeast. This conservation ensures that studies of metabolic regulation can be translated across models.

The GAPDH antibody is commonly used in western blotting, immunofluorescence, immunohistochemistry, and ELISA to detect protein abundance and localization. These applications are critical for cancer biology, metabolic disease research, and fundamental energy metabolism studies. For scientists investigating glycolysis, metabolic adaptation, or bioenergetics, the GAPDH antibody provides a specific and dependable detection tool. NSJ Bioreagents offers validated antibodies designed to ensure reproducibility and accuracy in advanced metabolic research.

Application Notes

Optimal dilution of the GAPDH antibody should be determined by the researcher.

Immunogen

Amino acids N136-E335 from the human protein were used as the immunogen for the GAPDH antibody.

Storage

After reconstitution, the GAPDH antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at

-20oC. Avoid repeated freezing and thawing.