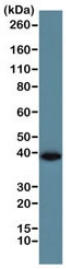
Recombinant GAPDH Antibody (Loading Control) [clone RM114] (R20198)

Catalog No.	Formulation	Size
R20198-0.1ML	Antibody in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ul

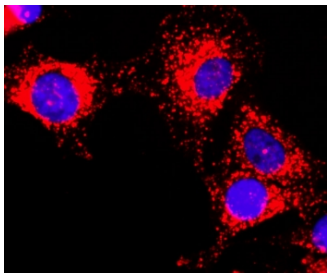
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	All Species
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM114
Purity	Protein A purified from animal origin-free supernatant
UniProt	P04406
Gene ID	2597
Applications	Western Blot : 1:1000 Immunoprecipitation : 1:200 Chromatin IP (ChIP) : 1:200 Immunocytochemistry : 1:200 Immunohistochemistry : 1:200 (1)
Limitations	This recombinant GAPDH antibody is available for research use only.



Western blot of human A431 cell lysate using the recombinant GAPDH antibody at 1:1000. Predicted molecular weight ~36 kDa.



ICC staining of human HeLa cells using recombinant GAPDH antibody at 1:200 (red) and DAPI nuclear stain (blue).

Description

The Recombinant GAPDH antibody is a recombinant reagent designed to detect glyceraldehyde-3-phosphate dehydrogenase (GAPDH), a glycolytic enzyme that is also one of the most widely used loading controls in protein analysis. GAPDH catalyzes the sixth step of glycolysis, converting glyceraldehyde-3-phosphate to 1,3-bisphosphoglycerate while reducing NAD+ to NADH. Beyond its classical role in metabolism, GAPDH has been implicated in nuclear functions, apoptosis, and cellular stress responses, highlighting its multifunctional nature. Because of its stable and constitutive expression in most tissues and cell types, GAPDH is commonly used as a reference protein for normalization in western blotting, making the Recombinant GAPDH antibody an essential laboratory reagent.

Structurally, GAPDH is a tetrameric enzyme composed of identical subunits, each containing an NAD+ binding domain and a catalytic domain. It is highly conserved across species, reflecting its indispensable role in cellular energy metabolism. While GAPDH is generally considered a housekeeping protein, its levels can vary under certain experimental conditions, such as oxidative stress or hypoxia. Therefore, careful validation is needed when it is used as a loading control. The Recombinant GAPDH antibody provides the consistency of recombinant design, ensuring batch-to-batch reproducibility for dependable results across studies.

In western blotting, the Recombinant GAPDH antibody is employed to verify equal protein loading between samples. Its ubiquitous expression makes it suitable for normalization of protein expression levels across diverse tissues and experimental conditions. In immunofluorescence, the antibody highlights cytoplasmic localization of GAPDH, while in immunohistochemistry, it reveals tissue-specific patterns of expression. In ELISA and biochemical assays, the Recombinant GAPDH antibody can be used to quantify GAPDH levels as a measure of metabolic activity.

The widespread use of GAPDH as a loading control has made it a benchmark reagent in molecular biology and biomedical research. The Recombinant GAPDH antibody ensures reliable detection without the variability associated with hybridoma-derived antibodies. This makes it especially useful in high-throughput experiments and in comparative studies where reproducibility is critical. Synonym phrases such as recombinant glyceraldehyde-3-phosphate dehydrogenase antibody and recombinant GAPDH loading control antibody improve discoverability for users under different naming conventions.

By providing validated and reproducible detection, the Recombinant GAPDH antibody enhances the accuracy of protein quantification and strengthens the interpretation of experimental data. NSJ Bioreagents ensures strict quality control of this reagent, giving researchers confidence in its performance across applications. With the Recombinant GAPDH antibody, scientists gain a trusted tool that serves both as a marker of cellular metabolism and as a dependable loading control in western blotting and related assays.

Application Notes

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

1. A pH6 Citrate buffer or pH9 Tris/EDTA buffer HIER step is recommended for testing of FFPE tissue sections.

Immunogen

A peptide corresponding to the C-terminus of GAPDH was used as the immunogen for this recombinant GAPDH antibody.

Storage

Store the recombinant GAPDH antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).