3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Anti-GAPDH
produced in rabbit, affinity isolated antibody

Catalog **G9545**

Product Description

Anti-GAPDH is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 314-333 of mouse GAPDH (GeneID: 407972), conjugated to KLH via an N-terminal cysteine residue. The corresponding sequence is identical in rat and differs by two amino acids in human. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-GAPDH recognizes human, mouse, and rat GAPDH. Applications include immunoblotting (~36 kDa), immunoprecipitation, and immuno-fluorescence. Detection of the GAPDH band by immunoblotting is specifically inhibited by the immunizing peptide. Anti-GAPDH may be used as a loading control in immunoblotting and protein normalization.

The enzyme GAPDH (glyceraldehyde-3-phosphate dehydrogenase, EC 1.2.1.12) is a tetramer of identical chains that catalyzes the reversible oxidative phosphorylation of glyceraldehyde-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD). This is an important energy-yielding step in carbohydrate metabolism. GAPDH is found in almost all species with a low rate of evolutionary changes.[1] GAPDH was found also to bind to several proteins such as: actin, tubulin, amyloid precursor, polyglutamine peptides, DRPLA, and huntingtin. In human embryonic kidney and mouse neuroblastoma cell lines, it was shown that nuclear translocation and associated neurotoxicity of mutant huntingtin is mediated by a ternary complex of huntingtin, GAPDH, and a ubiquitin E3 ligase named SIAH1. Over-expression of GAPDH or SIAH1 enhances nuclear translocation of mutant huntingtin and cytotoxicity.[2] GAPDH was also found to be part of the multicomponent OCT1 coactivator complex, OCA-S. This complex is essential for the S phase-dependent histone H2B transcription. This association links the H2B transcriptional machinery to cell cycle regulation and possibly to the cellular metabolic state (redox status).[3]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.1-0.2 µg/mL is recommended using a whole extract of human HeLa cells.

Immunoprecipitation: 5-10 µg is recommended using mouse NIH3T3 cell lysates.

Indirect immunofluorescence: a working concentration of 5-10 µg/mL is determined by staining rat NRK cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Burke, J.R., et al., *Nature Med.*, **2**, 347-350 (1996).
2. Bae, B.-I., et al., *Proc. Nat. Acad. Sci. USA*, **103**, 3405-3409 (2006).
3. Zheng, L., et al., *Cell*, **114**, 255-266 (2003).

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