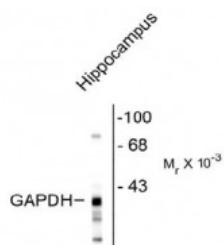




GAPDH Antibody [1D4]

CATALOG NUMBER: 50-267



Western blot of rat hippocampal lysate showing the immunolabeling of ~38k GAPDH protein.

Below: Human neuroblastoma SH-SY5Y cells stained with mouse anti-GAPDH (green), chicken antibody to neurofilament NF-H (red) and DNA (blue).

Specifications

SPECIES REACTIVITY:	Bovine, Chicken, Human, Mouse, Porcine, Rat
TESTED APPLICATIONS:	IHC, WB
USER NOTE:	Optimal dilutions for each application to be determined by the researcher.
PREDICTED MOLECULAR WEIGHT:	38
SPECIFICITY:	Specific for the ~38k Glyceraldehyde 3-Phosphate Dehydrogenase (GAPDH) protein.
IMMUNOGEN:	Extensively purified pig GAPDH.
HOST SPECIES:	Mouse

Properties

PURIFICATION:	Total IgM fraction--concentrated culture supernatant
PHYSICAL STATE:	Liquid
STORAGE CONDITIONS:	GAPDH antibody can be stored at -20°C and is stable at -20°C for at least 1 year.
CLONALITY:	Monoclonal
ISOTYPE:	IgM
CONJUGATE:	Unconjugated

Additional Info

ALTERNATE NAMES:	GAPD2, GAPDS, HSD-35, GAPDH-2, GAPD2, GAPDH2, GAPDS
ORF Names:	HSD-35, HSD35, Spermatogenic cell-specific glyceraldehyde 3-phosphate dehydrogenase 2
ACCESSION NO.:	O14556
PROTEIN GI NO.:	6226817

OFFICIAL SYMBOL:	GAPDHS
GENE ID:	26330

Background

BACKGROUND: Biological Significance: Glyceraldehyde 3-Phosphate Dehydrogenase (GAPDH) is a metabolic enzyme responsible for catalyzing one step in the glycolytic pathway, the reversible oxidative phosphorylation of glyceraldehyde 3-phosphate. Because GAPDH is a protein expressed in large amounts and which is required at all times for important "house keeping" functions, levels of GAPDH mRNA are often measured and used as standards in studies of mRNA expression. Increasingly, scientists are making use of specific antibodies to GAPDH in comparable studies of levels of protein expression. This antibody can be used as a loading control for western blotting experiments, allowing comparison between the level of this protein and others in a cell or tissue. Apart from a role in glycolysis, GAPDH may have other roles such as in the activation of transcription. GAPDH is reported to bind to a variety of other proteins, including the amyloid precursor protein, mutations in which cause some forms of Alzheimer's disease, and the polyglutamine tracts of Huntingtin, the protein product aberrant forms of which are causative of Huntington's disease. Associations with actin and tubulin have also been reported. The protein may also have a role in the regulation of apoptosis, and interestingly migrates from the cytoplasm into the nucleus when cells become apoptotic.

- REFERENCES:**
- 1) Morgenegg G, Winkler GC, Hubscher U, Heizmann CW, Mous J, Kuenzle CC. Glyceraldehyde-3-phosphate dehydrogenase is a nonhistone protein and a possible activator of transcription in neurons. *J Neurochem.* 47:54-62 (1986).
 - 2) Schulze H, Schuler A, Stuber D, Dobeli H, Langern H & Huber G. Rat brain glyceraldehyde-3-phosphate dehydrogenase interacts with the recombinant cytoplasmic domain of Alzheimer's beta-amyloid precursor protein. *J Neurochem.* 60:1915-22 (1993).
 - 3) Burke JR, Enghild JJ, Martin ME, Jou Y-S, Myers RM, Roses AD, Vance JM & Strittmatter WJ. Huntingtin and DRPLA proteins selectively interact with the enzyme GAPDH. *Nature Med.* 2: 347-350 (1996).
 - 4) Dastoor Z. & Dreyer, J-L. Potential role of nuclear translocation of glyceraldehyde-3-phosphate dehydrogenase in apoptosis and oxidative stress. *J. Cell Sci.* 114:1643-1653 (2001).

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December 13, 2016