Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - 100-4158

Code: 100-4158 **Size:** 2 mL

Product Description: Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - 100-4158

Concentration: 85 mg/mL by Refractometry

PhysicalState: Lyophilized

Label	Unconjugated
Host	Rabbit
Gene Name	GLUD1
Species Reactivity	bovine
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Reconstitution Volume	2.0 mL
Reconstitution Buffer	Restore with deionized water (or equivalent)
Stabilizer	None
Preservative	0.01% (w/v) Sodium Azide
Storage Condition	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Synonyms	rabbit anti-Glutamate Dehydrogenase Antibody, Glutamate dehydrogenase 1 mitochondrial, GDH 1
Application Note	This antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Bovine glutamate dehydrogenase exists as a homohexamer located within the mitochondrial matrix. Expect a band approximately 56 kDa in size corresponding to glutamate dehydrogenase monomer subunit by western blotting in the appropriate cell or tissue extract.
Background	Glutamate is a major excitatory neurotransmitter. One enzyme central to the metabolism of glutamate is glutamate dehydrogenase (GDH1; EC 1.4.1.3), that catalyzes the reversible deamination of L-glutamate to 2-oxoglutarate using NAD+ or NADP+. Mammalian GDH is composed of six identical subunits, and the regulation of GDH is very complex. It has been a major goal to identify the substrate and regulatory binding sites of GDH. It is only in recent years that the three-dimensional structure of GDH from microorganisms is available. Very recently, crystallization of bovine liver GDH was reported for the first time from the mammalian sources. However, remarkably little is known about the detailed structure of mammalian GDH, especially the brain enzymes.
Purity And Specificity	This product was prepared from monospecific antiserum by a delipidation and defibrination. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-rabbit serum, purified and partially purified Glutamate Dehydrogenase [Bovine Liver]. BLAST analysis was used to determine that cross reactivity is suggested for both mitochondrial and brain isoforms (GDH1 and GDH2), from both bovine and human sources. Additionally similar reactivity is suggested for most primate species including green monkey, white gibbon, chimpanzee orangutan, and gorilla. A high degree of sequence homology is also noted for GDH from chicken, mouse, rat, dog, and other mammals as well as Xenopus tropicalis, zebrafish, rainbow trout and Atlantic salmon. Cross reactivity against Glutamate Dehydrogenase from other tissues and species may occur but have not been specifically determined.
Assay Dilutions	User Optimized
ELISA	1:4,000 - 1:16,000
Western Blot	1:1,000 - 1:3,000
Other Assays	User Optimized
Expiration	Expiration date is one (1) year from date of opening.
Immunogen	This antibody was prepared from whole rabbit serum produced by repeated immunizations with a full length Glutamate Dehydrogenase protein isolated from Bovine Liver.

General Reference

Kim DW, et al. (2003) Molecular gene cloning, expression, and characterization of bovine brain glutamate dehydrogenase. J Biochem Mol Biol. 36(6):545-51. Cho S.W., Lee J., Choi S.Y. (1995) Two soluble forms of glutamate dehydrogenase isoproteins from bovine brain. Eur. J. Biochem. 233:340-346.Lee J., Kim S.W., Cho S.W. (1995) A novel glutamate dehydrogenase from bovine brain: purification and characterization. Biochem. Mol. Biol. Int. 36:1087-1096.

Related Products

610-4302	Anti-MOUSE IgG (H&L) (RABBIT) Antibody Peroxidase Conjugated - 610-4302
611-1302	Anti-RABBIT IgG (H&L) (GOAT) Antibody Peroxidase Conjugated - 611-1302
B304	NORMAL GOAT SERUM (NGS) - B304
KCB002	HRP Western Blot Anti-Mouse IgG Antibody - KCB002

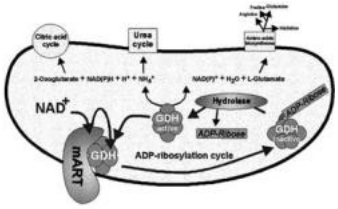
Related Links

	UniProtKB - P00366
http://www.uniprot.org/uniprot/P00366	
NCBI - 32880221	http://www.ncbi.nlm.nih.gov/protein/32880221
	GeneID - 281785

Images

1 Western blot analysis is shown using Rockland's anti-bovine glutamate dehydrogenase antibody to detect the enzyme from bovine liver preparations. Comparison to a molecular weight marker indicates a predominant band of ~62 kDa. The higher molecular weight band may represent a subunit dimer. A 4-20% gradient gel was used to separate proteins prior to transfer to 0.2 µm nitrocellulose. The blot was incubated with a 1:1,000 dilution of the antibody for 2 h at room temperature followed by detection using IRDye™800 labeled Goat-a-Rabbit IgG [H&L] (611-132-122) diluted 1:5,000 for 45 min at room temperature. IRDye™800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

2 Metabolic pathways that may be affected by the inhibition of GDH are indicated. mART, mitochondrial ADP-ribosyl transferase.



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