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

Glutamate Dehydrogenase Antibody
Catalog # ASR3793

Specification

Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Bovine**
Reactivity	**Bovine**
Clonality	**Polyclonal**
Application	**WB, E, IP, I, LCI**
Application Note	**This antibody has been tested 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. Anti-Glutamate Dehydrogenase Antibody is suitable for use in ELISA.**
Physical State	**Lyophilized**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This antibody was prepared from whole rabbit serum produced by repeated immunizations with a full length Glutamate Dehydrogenase protein isolated from Bovine Liver.**
Reconstitution Volume	**2.0 mL**
Reconstitution Buffer	**Restore with deionized water (or equivalent)**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - Additional Information

Gene ID 281785

Other Names
281785

Purity
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.

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.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - Protein Information

Name GLUD1

Synonyms GLUD

Function
Mitochondrial glutamate dehydrogenase that converts L- glutamate into alpha-ketoglutarate. Plays a key role in glutamine anaplerosis by producing alpha-ketoglutarate, an important intermediate in the tricarboxylic acid cycle (PubMed:14659072, PubMed:4365183). Plays a role in insulin homeostasis (By similarity). May be involved in learning and memory reactions by increasing the turnover of the excitatory neurotransmitter glutamate (By similarity).

Cellular Location
Mitochondrion {ECO:0000250|UniProtKB:P00367}. Endoplasmic reticulum {ECO:0000250|UniProtKB:P00367}. Note=Mostly translocates into the mitochondria, only a small amount of the protein localizes to the endoplasmic reticulum. {ECO:0000250|UniProtKB:P00367}

Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - Images

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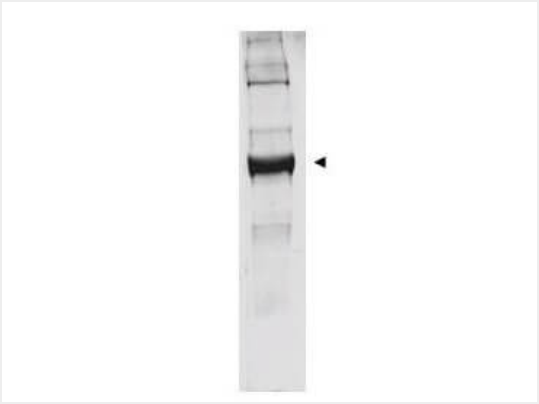

Western blot analysis is shown using Rockland's anti-bovine glutamate dehydrogenase antibody to detect the enzyme from bovine liver preparations. Comparison to a molecular weight marker indicates a predominant band of ~62 kDa. The higher molecular weight band may represent a subunit dimer. A 4-20% gradient 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.

Anti-GLUTAMATE DEHYDROGENASE (Bovine Liver) (RABBIT) Antibody - 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.