

Datasheet for 200-4158S

Glutamate Dehydrogenase Antibody

Overview

Description:	Anti-Glutamate Dehydrogenase (Bovine Liver) (RABBIT) Antibody - 200-4158S
Item No.:	200-4158S
Size:	25 µL
Applications:	ELISA, WB
Reactivity:	Bovine
Host Species:	Rabbit

Product Details

Background:	Glutamate Dehydrogenase, mitochondrial, converts L-glutamate into alpha-ketoglutarate. It plays a key role in glutamine anaplerosis by producing alpha-ketoglutarate, which is an important intermediate in the tricarboxylic acid cycle. It may be involved in learning and memory reactions by increasing the turnover of the excitatory neurotransmitter glutamate. It is subject to allosteric regulation. It is activated by ADP, inhibited by GTP and ATP, and ADP can occupy the NADH binding site and activate the enzyme.
Synonyms:	rabbit anti-Glutamate Dehydrogenase Antibody, Glutamate dehydrogenase 1 mitochondrial, GDH 1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	GLUD1
Reactivity:	Bovine
Immunogen Type:	Native Protein
Immunogen:	Glutamate Dehydrogenase [Bovine Liver]

Purity/Specificity: Anti-Glutamate Dehydrogenase is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum as well as purified and partially purified Glutamate Dehydrogenase [Bovine Liver]. Cross reactivity against Glutamate Dehydrogenase from other tissues and species may occur but have not been specifically determined.

Relevant Links:

- [UniProtKB - P00366](#)
- [NCBI - 32880221](#)
- [GenelD - 281785](#)

Application Details

Tested Applications: ELISA, WB

Application Note: Glutamate Dehydrogenase antibody has been tested by ELISA and western blot and is assayed against 1.0 ug of Glutamate Dehydrogenase [Bovine Liver] in a standard ELISA using Peroxidase conjugated Affinity Purified anti-Rabbit IgG [H&L] (Goat) code #611-1302 and (ABTS (2,2'-azino-bis-[3-ethylbenthiazoline-6-sulfonic acid])) code # ABTS-100 as a substrate for 30 minutes at room temperature. A working dilution of 1:5,000 to 1:20,000 is suggested for this product.

Assay Dilutions: All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

ELISA: 1:5,000 - 1:20,000

IP: 1:100

WB: 1:500 - 1:5,000

Formulation

Physical State: Liquid (sterile filtered)

Concentration: 1 mg/ml by UV absorbance at 280 nm

Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

Preservative: 0.01% (w/v) Sodium Azide

Stabilizer: None

Shipping & Handling

Shipping Condition: Dry Ice

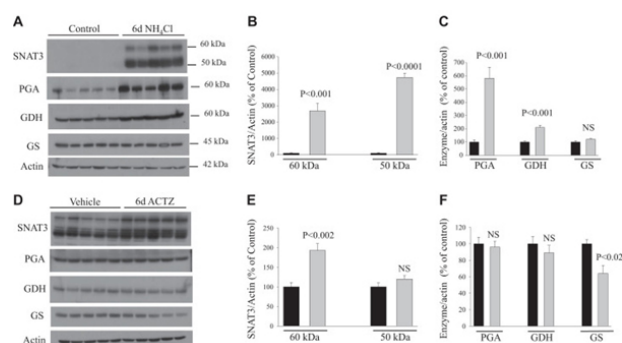
Storage Condition:

Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.

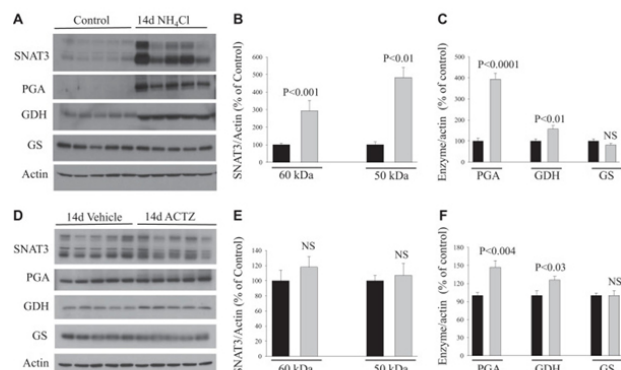
Expiration:

Expiration date is one (1) year from date of receipt.

Images


Western Blot

Adaptation of glutamine transporter and amniogenic enzymes in the kidney cortex of rats treated with acetazolamide (ACTZ) or NH₄Cl loading for 6 days. A and D: tissue homogenates (enzymes) and membrane fractions (SNAT3) were isolated from the kidney cortex of rats treated with NH₄Cl loading (A) or ACTZ (D) versus their respective control or vehicle treatment and were used for immunoblot analysis using specific antibodies for each protein. B, C, E, and F: corresponding average means ± SE of the densitometry analysis of SNAT3 (B and E) and amniogenic enzymes (C and F) in response to NH₄Cl loading versus control (B and C) or in ACTZ-treated versus vehicle-treated rats (E and F). The abundance of these proteins was normalized to actin used for the control of gel loading. As shown, SNAT3, phosphate-dependent glutaminase (PGA), and glutamate dehydrogenase (GDH) were sharply upregulated in NH₄Cl-loaded rats but not in ACTZ-treated rats. n = 5 rats in each group. Each lane was loaded with 10–30 µg protein from the kidney cortex. Note that the exposure time for SNAT3 in vehicle versus ACTZ (D) was much higher than that in control versus 6 days of NH₄Cl loading (A). GS, glutamine synthetase; NS, not significant. Fig 4. PMID: 32657159



Western Blot

Adaptation of glutamine transporter and ammoniagenic enzymes in the kidney cortex of rats treated with acetazolamide (ACTZ) or NH₄Cl loading for 2 wk. A and D: tissue homogenates (enzymes) and membrane fractions (SNAT3) were isolated from the kidney cortex of rats treated with NH₄Cl loading (A) or ACTZ (D) versus their respective control or vehicle treatment and were used for immunoblot analysis using specific antibodies for each protein. B, C, E, and F: corresponding average means $\pm$ SE of the densitometry analysis of SNAT3 (B and E) and ammoniagenic enzymes (C and F) in response to NH₄Cl loading versus control (B and C) or in ACTZ-treated versus vehicle-treated rats (E and F). The abundance of these proteins was normalized to actin used for the control of gel loading. As shown, SNAT3 was sharply upregulated in NH₄Cl-loaded rats but not ACTZ-treated rats for 2 wk. Phosphate-dependent glutaminase (PGA) and glutamate dehydrogenase (GDH) were slightly, but significantly, upregulated in ACTZ-treated rats for 2 wk. The magnitude of PGA induction was greater in NH₄Cl loading versus ACTZ treatment. n = 5 rats in each group. Each lane was loaded with 10–30 μ g protein from the kidney cortex. Note that the exposure time for SNAT3 in vehicle versus ACTZ (D) was much higher than that in control versus 6 days of NH₄Cl loading (A). GS, glutamine synthetase; NS, not significant. Fig 5. PMID: 32657159

References

- Alam P et al. Acetazolamide causes renal HCO₃ wasting but inhibits ammoniogenesis and prevents the correction of metabolic acidosis by the kidney. *Am J Physiol Renol Physiol.* (2020)
- Wilkie MP et al. Shifting Patterns of Nitrogen Excretion and Amino Acid Catabolism Capacity during the Life Cycle of the Sea Lamprey (*Petromyzon marinus*). *Physiol Biochem Zool.* (2006)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.