
Gamma Glutamylcysteine Synthetase (GCS) / Glutamate-cysteine Ligase Ab-1
Rabbit Polyclonal Antibody

Cat. #RB-1697-P0, -P1, or -P (0.1ml, 0.5ml, or 1.0ml at 1.0mg/ml) (Purified Ab with BSA and Azide)

Cat. #RB-1697-P1ABX or -PABX (0.5ml or 1.0ml at 1.0mg/ml) (Purified Ab without BSA and Azide)

Cat. #RB-1697-PCL (0.1ml) (Positive Control for Western Blot)

Description: Glutathione (GSH) plays an important role in detoxification of oxidants and toxins from the cells. In most cells GSH is synthesized de novo in two steps catalysed by Gamma Glutamylcysteine Synthetase (GCS) / Glutamate-cystein Ligase and GSH synthetase. GCS catalyses the first and rate limiting step and is important in GSH homeostasis. It is composed of two subunits: heavy and light. These subunits are coded by different genes which are controlled by different mechanisms. The heavy subunit carries the catalytic activity and can be inhibited through feedback mechanism by GSH. Binding of light subunit to heavy subunit reduces the Michaelis-Menten constant for glutamate to a physiological concentration of 1.2mM and increases the inhibitory constant for GSH.

Comments: Ab-1 recognizes the heavy subunit of GCS.

Mol. Wt. of Antigen: 73kDa

Epitope: aa 295-313

Species Reactivity: Human, Monkey, Mouse, and Rat, Cow (weak). Others not known.

Immunogen: A synthetic peptide derived from corresponding to aa 295-313 of rat GCLC (heavy subunit of GCS).

Applications and Suggested Dilutions:

- Western Blotting (Ab 2.5-5µg/ml for 2hrs at RT)
- Immunoprecipitation (Denatured verified)
(Use Protein A) (Ab 10µg/mg protein lysate)

The optimal dilution for a specific application should be determined by the investigator.

Positive Control: Jurkat, MAD109, PC12 cells

Cellular Localization: Cytoplasmic

Storage and Stability: Ab with sodium azide is stable for 24 months when stored at 2-8°C. Antibody

WITHOUT sodium azide is stable for 36 months when stored at below 0°C.

Supplied As:

Total IgG purified from rabbit anti-serum by Protein A chromatography. Prepared at 1mg/ml in 10mM PBS, pH 7.4, with 0.2% BSA & 0.09% sodium azide. Also available without BSA and azide at 1mg/ml.

Key References:

1. Liu R M, et al. (1998) Am J Physiol: Lung Cell Molec Physiol, 275:L861-869.
2. Choi J, et al. (2000) J Biol Chem, 275:3693-3698.
3. Levonen A-L, et al. (2001) Arterioscler Thromb Vasc Biol, 21:1846-1851.
4. Moellering D, et al. (1999) FEBS Letts 448:292-296.

Limitations and Warranty:

Our products are intended FOR RESEARCH USE ONLY and are not approved for clinical diagnosis, drug use or therapeutic procedures. No products are to be construed as a recommendation for use in violation of any patents. We make no representations, warranties or assurances as to the accuracy or completeness of information provided on our data sheets and website. Our warranty is limited to the actual price paid for the product. NeoMarkers is not liable for any property damage, personal injury, time or effort or economic loss caused by our products.

Material Safety Data:

This product is not licensed or approved for administration to humans or to animals other than the experimental animals. Standard Laboratory Practices should be followed when handling this material. The chemical, physical, and toxicological properties of this material have not been thoroughly investigated. Appropriate measures should be taken to avoid skin and eye contact, inhalation, and ingestion. The material contains 0.09% sodium azide as a preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material as indicated above. The National Institute of Occupational Safety and Health has issued a bulletin citing the potential explosion hazard due to the reaction of sodium azide with copper, lead, brass, or solder in the plumbing systems. Sodium azide forms hydrazoic acid in acidic conditions and should be discarded in a large volume of running water to avoid deposits forming in metal drainage pipes.

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