

Mouse Carbonic Anhydrase IV / Car4 Protein (His Tag)

Catalog Number: 50350-M08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

AW456718; Ca4; Car4; RP23-167D6.1

Protein Construction:

A DNA sequence encoding the mouse Car4 (NP_031633.1) without the C-terminal propeptide (Met 1-Ser 277) was expressed, with a C-terminal polyhistidine tag.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Bio Activity:

Measured by its esterase activity . The specific activity is >10 pmoles/min/μg .

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Glu 18

Molecular Mass:

The secreted recombinant mouse Car4 consists of 271 amino acids and has a calculated molecular mass of 31 kDa as estimated in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

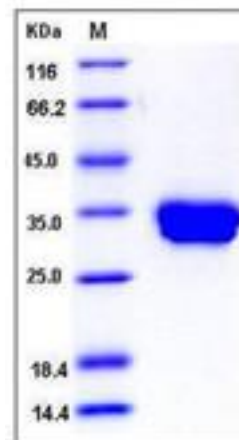
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

The carbonic anhydrases (or carbonate dehydratases) are classified as metalloenzyme for its zinc ion prosthetic group and form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons, a reversible reaction that takes part in maintaining acid-base balance in blood and other tissues. The carbonic anhydrase (CA) family consists of at least 11 enzymatically active members and a few inactive homologous proteins. Carbonic anhydrase IV (CAIV) is a membrane-associated enzyme anchored to plasma membrane surfaces by a phosphatidylinositol glycan linkage. CAIV is a high-activity isozyme in CO₂ hydration comparable to that of CAII. Furthermore, CAIV is more active in HCO₃⁻ dehydration than is CAII. However, the esterase activity of CAIV is decreased 150-fold compared to CAII.

References

1. Lehtonen J, *et al.* (2004) Characterization of CA XIII, a Novel Member of the Carbonic Anhydrase Isozyme Family. *The Journal of Biological Chemistry*. 279: 2719-27.
2. Lindskog S. (1997) Structure and mechanism of carbonic anhydrase. *Pharmacology & Therapeutics*. 74(1): 1-20.
3. Baird TT, *et al.* (1997) Catalysis and Inhibition of Human Carbonic Anhydrase IV. *Biochemistry*. 36 (9): 2669-78.

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