

Human Carbonic Anhydrase II / CA2 Protein (His Tag)

Catalog Number: 10478-H08E



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CA-II; CAC; CAII; Car2; HEL-76; HEL-S-282

Protein Construction:

A DNA sequence encoding the human CA2 (NP_000058.1) (Met 1-Lys 260) was expressed, with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 96 % as determined by SDS-PAGE

Bio Activity:

Measured by its esterase activity. The specific activity is >150 pmoles/min/μg.

Endotoxin:

Please contact us for more information.

Stability:

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

Predicted N terminal: Met 1

Molecular Mass:

The recombinant human CA2 consisting of 266 amino acids and has a calculated molecular mass of 30 kDa as estimated in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris 0.5M NaCl, pH 8.0

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:

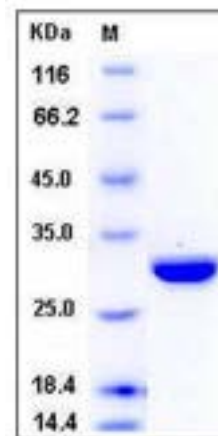
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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 II is one of fourteen forms of human α carbonic anhydrases. Defects in this enzyme are associated with osteopetrosis and renal tubular acidosis. Renal carbonic anhydrase allows the reabsorption of sodium ions in the proximal tubule. Carbonic anhydrase II has been shown to interact with Band 3 and Sodium-hydrogen antiporter 1.

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. Lilias A, *et al.* (1972) Crystal Structure of Human Carbonic Anhydrase C. *Nature new biology*. 235: 131-7.

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