

Recombinant human Carbonic Anhydrase 1/CA1 protein

Catalog Number: ATGP3241

PRODUCT INFORMATION

Expression system

E.coli

Domain

1-261aa

UniProt No.

P00915

NCBI Accession No.

NP_001122301

Alternative Names

Carbonic anhydrase I, CA-I, Carbonate dehydratase I, Carbonic anhydrase B, CAB, Cyanamide hydratase CA1, Car1

PRODUCT SPECIFICATION

Molecular Weight

31.0 kDa (281aa) confirmed by MALDI-TOF

Concentration

1mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 10% glycerol

Purity

> 95% by SDS-PAGE

Biological Activity

Specific activity is > 300pmol/min/ug, and is defined as the amount of enzyme that hydrolyze 1.0pmole of 4-nitrophenyl acetate to 4-nitrophenol per minute at pH 8.0 at 37C.

Tag

His-Tag

Application

SDS-PAGE, Enzyme Activity

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

Carbonic anhydrase (CA) is an enzyme that catalyses rapid conversion of carbon dioxide to bicarbonate and protons ($\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{HCO}_3^- + \text{H}^+$). Most carbonic anhydrases contain a zinc ion in their active site and the

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primary function of this enzyme is known to maintain acid-base balance in blood and other tissues, and to help transport carbon dioxide of tissues. Carbonic anhydrases have been found in all kingdoms of life. Recombinant carbonic anhydrase fused to His-tag, was expressed in *E. coli* and purified by conventional chromatography techniques.

Amino acid Sequence

MGSSHHHHHH SGLVPRGSH MASPDWGYDD KNGPEQWSKL YPIANGNNQS PVDIKTSETK HDTSLKPISV SYNPAKAI
INVGHSHFVN FEDNDNRSVL KGGPFSDSYR LFQHFHWGS TNEHGSEHTV DGVKYSALH VAHWNSAKYS SLAEAASKAD
GLAVIGVLMK VGEANPKLQK VLDALQAIKT KGKRAPFTNF DPSTLLPSSL DFWTYPGSLT HPPLYESVTW IICKESISVS
SEQLAQFRSL LSNVEGDNAV PMQHNNRPTQ PLKGRTVRAS F

General References

Nogradi A., et al. (1998). *Am J Pathol.* 153:1-4.

Ferry JG., et al. (1999). *Proc Natl Acad Sci U S A.* 96(26):15184-9.

DATA

SDS-PAGE

(kDa)**70**
57**40****28****18****13.5****8.5**

3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

15% SDS-PAGE (3ug)