

Recombinant Human Carbonic Anhydrase I

Cat. No. CA1-179H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human full length Carbonic Anhydrase I (Carbonate dehydratase I, CA-I, Carbonic anhydrase B) was cloned from human cDNA and expressed in <i>E.coli</i> . It consists of the human Carbonic Anhydrase I (Swiss prot accession: P00915). MW = 29.3 kDa.
Species	Human
Source	E.coli
Description	Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They participate in a variety of biological processes, including cellular respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. They show extensive diversity in tissue distribution and in their subcellular localization. CA1 is closely linked to CA2 and CA3 genes on chromosome 8, and it encodes a cytosolic protein which is found at the highest level in erythrocytes. Transcript variants of CA1 utilizing alternative polyA_sites have been described in literature.
Purity	> 95% by SDS-PAGE. The protein was observed as a single band migrating at molecular weight about 30 kDa.
Specific Activity	>100 pmole/min/ug measured monitoring the esterase activity of the enzyme at 405nm with 1mM 4-nitrophenyl acetate in 12.5mM Tris, 75mM NaCl, pH 7.5.

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Supplied As	2mg/ml in Tris buffer 20mM pH 7.5, NaCl 150mM. The concentration is calculated from the absorbance at 280nm ($e_{280} = 44920 \text{ M}^{-1} \text{ cm}^{-1}$).
Characteristics	Under the above described conditions, to avoid precipitation or protein dimerization, the product can be concentrated up to 1mM.
Storage	-20°C. The protein is stable at 4 °C for weeks and at 25 °C for at least several days. After initial defrost, aliquot product into individual tubes and refreeze at -20°C. Avoid repeated freeze/thaw cycles.
Full Length	Full L.
GENE INFORMATION	
Gene Name	CA1 carbonic anhydrase I [Homo sapiens]
Synonyms	CA1; carbonic anhydrase I; Car1; EC 4.2.1.1; Carbonic anhydrase 1; CA-I; Carbonic anhydrase B; CAB; carbonic dehydratase
Gene ID	759
mRNA Refseq	NM_001128829
Protein Refseq	NP_001122301
MIM	114800
UniProt ID	P00915
Chromosome Location	8q21.2

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Pathway	Nitrogen metabolism
Function	carbonate dehydratase activity; lyase activity; metal ion binding; zinc ion binding; carbonic dehydratase
PDB rendering based on 1azm.	