

Recombinant Human CA2 protein, His-tagged

Cat. No. CA2-354H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human CA2 protein (Ser2-Lys260), fused to His tag at C-terminus, was expressed in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	259
Description	Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes. CAs form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons (or vice versa), a reversible reaction that occurs rather slowly in the absence of a catalyst. One of the functions of the enzyme in animals is to interconvert carbon dioxide and bicarbonate to maintain acid-base balance in blood and other tissues, and to help transport carbon dioxide out of tissues. The active site of most carbonic anhydrases contains a zinc ion. They are, therefore, classified as metalloenzymes. There are at least five distinct CA families (α, β, γ, δ and ϵ). These families have no significant amino acid sequence similarity and in most cases are thought to be an example of convergent evolution. The α-CAs are found in humans. Carbonic anhydrase II (CA2) is also known as Carbonate dehydratase II, Carbonic anhydrase C, 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

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Form	Lyophilized from 0.22 um filtered solution in 20 mM Tris, pH 8.0 with 150 mM NaCl, 1 mM DTT, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 30.0 kDa. The protein migrates as 30 kDa under reducing (R) condition (SDS-PAGE).
Endotoxin	Less than 1.0 EU per ug by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. This product is stable after storage at: -20 centigrade to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

Gene Name	CA2
Official Symbol	CA2
Synonyms	CA2; carbonic anhydrase II; carbonic anhydrase 2; CA II; CAII; Car2; CAC; carbonic anhydrase B; carbonic anhydrase C; carbonic dehydratase; carbonate dehydratase II; CA-II

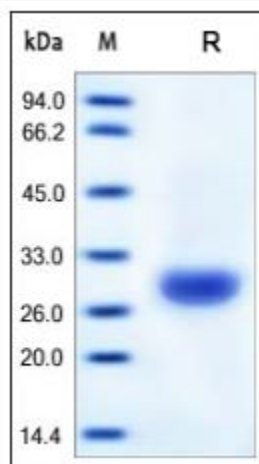
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Gene ID	760
mRNA Refseq	NM_000067
Protein Refseq	NP_000058
MIM	611492
UniProt ID	P00918

SDS-PAGE of CA2-354H



Human CA2, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.