Datasheet for ABIN7194563

CA3 Protein (His tag)

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Overview

Quantity:	100 µg
Target:	CA3
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This CA3 protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human Carbonic Anhydrase 3/CA3 Protein (His Tag)(Active)
Sequence:	Met 1-Lys 260
Characteristics:	A DNA sequence encoding the human CA3 (NP_005172.1) (Met 1-Lys 260) was expressed, with a polyhistide tag at the C-terminus.
Purity:	> 95 % as determined by reducing SDS-PAGE.
Biological Activity Comment:	Measured by its esterase activity.The specific activity is >5 pmoles/min/µg.

Target Details

Target:	CA3
Alternative Name:	Carbonic Anhydrase 3/CA3 (CA3 Products)
Background:	Background: Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes first

Target Details

	discovered in 1933 that catalyze the reversible hydration of carbon dioxide. CAs participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. Carbonic anhydrases (CAs) form a family of enzymes that catalyze the rapid conversion of carbon dioxide and water to bicarbonate and protons, a reaction that occurs rather slowly in the absence of a catalyst. The active site of most carbonic anhydrases contains a zinc ion, they are therefore classified as metalloenzymes. Several forms of carbonic anhydrase occur in nature. The primary function 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. Plants contain a different form called β-carbonic anhydrase, which, from an evolutionary standpoint, is a distinct enzyme, but participates in the same reaction and also uses a zinc ion in its active site. Carbonic anhydrase 3, also known as Carbonate dehydratase III, CA-III and CA3, is a cytoplasm protein which belongs to the alpha-carbonic anhydrase family. CA3 is activated by proton donors such as imidazole and the dipeptide histidylhistidine. It is inhibited by coumarins and sulfonamide derivatives such as acetazolamide. At 6 weeks gestation, transcripts accumulate at low levels in the somites and at high levels throughout the notochord. As gestation continues, CA3 becomes abundant in all developing muscle masses and continues at high to moderate levels in the notochord. Synonym: Carbonic Anhydrase 3; Carbonate Dehydratase III; Carbonic Anhydrase III; CA-III; CA3;Car3
Molecular Weight:	30.4 kDa
NCBI Accession:	NP_005172

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Reconstitution:	Please refer to the printed manual for detailed information.
Buffer:	Lyophilized from sterile 50 mM Tris, 500 mM NaCl, 10 % glycerol, pH 8.0
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted

samples are stable at < -20°C for 3 months.