Recombinant Human Carbonic Anhydrase 3/CA3 Protein (His Tag)

Catalog Number: PKSH031566

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

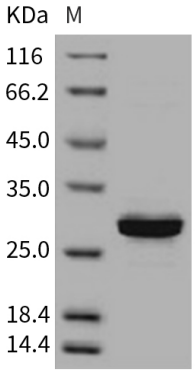
Description

Species	Human
Source	E.coli-derived Human Carbonic Anhydrase 3/CA3 protein Met 1-Lys 260, with an C-terminal His
Calculated MW	30.4 kDa
Observed MW	30.4 kDa
Accession	NP_005172.1
Bio-activity	Measured by its esterase activity. The specific activity is > 5 pmoles/min/μg.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	Please contact us for more information.
Storage	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.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 50mM Tris, 500mM NaCl, 10% glycerol, pH 8.0 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 95 % as determined by reducing SDS-PAGE.

Background

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes first 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. 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. 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. Carbonic anhydrase 3, also known as Carbonate dehydratase III, CA-III and CA3, is a cytoplasm protein which belongs to thealpha-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.

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