

Datasheet for ABIN7194575

CA5B Protein (His tag)

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Overview

Quantity:	50 µg
Target:	CA5B
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This CA5B protein is labelled with His tag.

Product Details

Purpose:	Recombinant Human Carbonic Anhydrase 5B/CA5B Protein (His Tag)(Active)
Sequence:	Cys 34-Pro 317
Characteristics:	A DNA sequence encoding the mature form of human CA5B (Q9Y2D0) (Cys 34-Pro 317) was fused with a polyhistidine tag at the C-terminus and an initial Met at the N-terminus.
Purity:	> 97 % as determined by reducing SDS-PAGE.
Biological Activity Comment:	Measured by its esterase activity. The specific activity is >150 pmoles/min/µg.

Target Details

Target:	CA5B
Alternative Name:	Carbonic Anhydrase 5B/CA5B (CA5B Products)
Background:	Background: Carbonic anhydrase 5B; also known as carbonate dehydratase VB; carbonic

Target Details

anhydrase VB; CA-VB and CA5B; is a member of the alpha-carbonic anhydrase family. The strongest expression of CA5B / CA-VB is in heart; pancreas; kidney; placenta; lung; and skeletal muscle. It is not expressed in liver. 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 show extensive diversity in tissue distribution and in their subcellular localization. CA5B / CA-VB is localized in the mitochondria and shows the highest sequence similarity to the other mitochondrial CA5A / CA-VA. CA5B / CA-VB has a wider tissue distribution than CA5A / CA-VA; which is restricted to the liver. The differences in tissue distribution suggest that the two mitochondrial carbonic anhydrases evolved to assume different physiologic roles. CA5A / CA-VA is activated by histamine; L-adrenaline; L- and D-histidine; and L- and D-phenylalanine. It is inhibited by coumarins; sulfonamide derivatives such as acetazolamide and Foscarnet (phosphonoformate trisodium salt). CA5B / CA-VB is inhibited by coumarins; sulfonamide derivatives such as acetazolamide (AZA); saccharin and Foscarnet (phosphonoformate trisodium salt).

Synonym: Carbonic Anhydrase 5B Mitochondrial; Carbonate Dehydratase VB; Carbonic Anhydrase VB; CA-VB; CA5B

Molecular Weight: 34 kDa

UniProt: [Q9Y2D0](#)

Application Details

Restrictions: For Research Use only

Handling

Format: Lyophilized

Reconstitution: Please refer to the printed manual for detailed information.

Buffer: Lyophilized from sterile 20 mM Tris, 50 mM NaCl, 0.05 % Brij-35, 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.