Recombinant Human Carbonic Anhydrase 5B/CA5B Protein (His Tag)

Catalog Number:PKSH030856

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

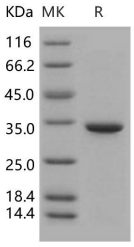
Description

Synonyms	Carbonic Anhydrase 5B Mitochondrial;Carbonate Dehydratase VB;Carbonic Anhydrase VB;CA-VB;CA5B
Species	Human
Expression Host	E.coli
Sequence	Cys 34-Pro 317
Accession	Q9Y2D0
Calculated Molecular Weight	34.0 kDa
Observed molecular weight	34 kDa
Tag	C-His
Bioactivity	Measured by its esterase activity. The specific activity is > 150 pmoles/min/μg.

Properties

Purity	> 97 % 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℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20mM Tris, 50mM NaCl, 0.05% Brij-35, pH 8.0 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 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



> 97 % as determined by reducing SDS-PAGE.

Background

Carbonic anhydrase 5B; also known as carbonate dehydratase VB; carbonic anhydrase VB; CA-VB and CA5B; is amember 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

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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).

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