## 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°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 20mM Tris, 50mM NaCl, 0.05% Brij-35, pH 8.0

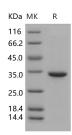
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as

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

### For Research Use Only

A Reliable Research Partner in Life Science and Medicine

Toll-free: 1-888-852-8623 Tel: 1-832-243-6086 Fax: 1-832-243-6017

Web: www.elabscience.com Email: techsupport@elabscience.com

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



Catalog Number: PKSH030856

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).

 Toll-free: 1-888-852-8623
 Tel: 1-832-243-6086
 Fax: 1-832-243-6017

 Web: <a href="mailto:www.elabscience.com">www.elabscience.com</a>
 Email: <a href="mailto:techsupport@elabscience.com">techsupport@elabscience.com</a>