Recombinant Protein Technical Manual

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

RPES5221

Product Data:

Product SKU: RPES5221

Size: 10µg

Species: Human

Expression host: E. coli

Uniprot: Q9Y2D0

Protein Information:

Molecular Mass: 34 kDa

AP Molecular Mass: 34 kDa

Tag: C-His

Bio-activity: Measured by its esterase activity. The specific activity is >150 pmoles/min/µg.

Purity: > 97 % as determined by reducing SDS-PAGE.

Endotoxin: Please contact us for more information.

Storage: 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℃ 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

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

Application:

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

Immunogen Information:

Sequence: Cys 34-Pro 317

Background:

Carbonic anhydrase 5B, also known as carbonate dehydratase VB, carbonic 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).