

**Recombinant Human Carbonic Anhydrase VB / CA5B Protein (His tag)**

**Cat.NO.: TP07020**

3th Edition

**Synonyms:**CA-VB;MGC39962

**Description:**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).

**Form:**PBS

**Molecular Weight:**34 kDa

**Sequences:**Cys 34-Pro 317

**Purity:**> 95% by HPLC

**Concentration:**

**Endotoxin Level:**<1.0 EU per 1 ug of protein (determined by LAL method)

**Storage:**Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.