

Carbonic Anhydrase 2 Human

Description: Carbonic anhydrase 2 Human Recombinant protein produced in E.Coli containing 260 amino acids (1-260) and having a molecular mass of 29.2 kDa. The Carbonic anhydrase 2 is purified by proprietary chromatographic techniques.

Synonyms: Carbonic anhydrase 2, Carbonate dehydratase 2, Carbonic Anhydrase II, CA-II, Carbonic anhydrase C, CAC, CA2, CAII, Car2.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered colorless solution.

Amino Acid Sequence: MSHHWGYGKH NGPEHWHKDF PIAKGERQSP VDIDHTAKY
DPSLKPLSVS YDQATSLRIL NNGHAFNVEF DDSQDKAVLK GPLDGTYRL IQFHHWGS
DGQGSEHTVD KKKYAAELHL VHWNTKYGDF GKAVQPDGL AVLGIFLKVG SAKPGLQKV
DVLDSIKTKG KSADFTNFD P RGLLPESLDY WTYPGSLTTP PLLEC VTWIV LKEPISVSSE
QVLKFRKLN NGE

Purity: Greater than 95.0% as determined by SDS-PAGE.

Formulation:

The Carbonic Anhydrase 2 enzyme is supplied in 20mM Tris pH-8, 50mM NaCl, 10% glycerol and 1mM DTT.

Stability:

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

Introduction:

The enzyme Carbonic anhydrase II having an accession number of NP_414668 is also called carbonate dehydratase which is part of the enzyme family that catalyses rapid inter-conversion of carbon dioxide & water to bicarbonate, carbonic acid and protons ($\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{HCO}_3^- + \text{H}^+$), a reaction that occurs rather slowly in the absence of a catalyst. The majority of carbonic anhydrases enclose a zinc ion in their active site and therefore is classified as metalloenzymes. The most important function of Carbonic anhydrase is known to preserve acid-base balance in blood and other tissues, and to help transport carbon dioxide of tissues. Carbonic anhydrases have been found in all kingdoms of life. Carbonic anhydrase has 3 different classes: alpha, beta and gamma which share very little sequence or structural similarity, thus far they all perform the same function and require a zinc ion at the active site. Mammalian carbonic anhydrase is monomeric and belongs to the alpha class. Plant carbonic anhydrase is dimeric and belongs to the beta class. Methane-producing bacteria carbonic anhydrase is trimeric and grows in hot springs which forms the gamma class.

Biological Activity:

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Specific activity is 50-70 nmoles/min/ μ g and was obtained by measuring the increase in the amount of p-nitrophenol by its esterase activity. Specific activity is defined as the amount of p-nitrophenol that 1 μ g of enzyme can reduce at 25C for 1 minute.



Catalog #:ENPS-427

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