

## 32-2200: Carbonic Anhydrase 2 Recombinant Protein

**Alternative Name :** Carbonic anhydrase 2, Carbonate dehydratase 2, can, cynT2, yadF, b0126, JW0122, Carbonic Anhydrase II.

### Description

Source : Escherichia Coli. Carbonic anhydrase II is an E.coli Recombinant protein produced in E.Coli containing 240 amino acids (1-220) and having a molecular mass of 27 kDa. Carbonic anhydrase is expressed with an amino-terminal hexahistidine tag. The Carbonic anhydrase 2 is purified by proprietary chromatographic techniques. 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.

### Product Info

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| <b>Amount :</b>            | 25 µg  |
| <b>Purification :</b>      | Greater than 95.0% as determined by (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.   |
| <b>Content :</b>           | The Carbonic Anhydrase 2 enzyme is supplied in 20mM Tris pH-8 and 1mM DTT.   |
| <b>Storage condition :</b> | Carbonic Anhydrase II although stable at 4°C for 1 week, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.   |
| <b>Amino Acid :</b>        | MGSSHHHHHH SSGLVPRGSH MKDIDTLISN NALWSKMLVE EDPGFFEKLAQAQKPRFLWI<br>GCSDSRVPAE RLTGLEPGEL FVHRNVANLV IHTDLNCLSV VQYAVDVLEV EHIIICGHYG<br>CGGVQAAVEN PELGLINNLW HIRDIWFKH SLLGEMPQE RRLDTLCELN VMEQVYNLGH<br>STIMQSAWKR GQKVTIHGW YGIHDGLLRD LDVTATNRET LEQRYRHGIS NLKCLKHANHK. |

