



Product Datasheet

Product Name	Carbonic Anhydrase II E.coli Recombinant
Cata No	CB501382
Source	<i>Escherichia Coli.</i>
Synonyms	Carbonic anhydrase 2, Carbonate dehydratase 2, can, cynT2, yadF, b0126, JW0122, Carbonic Anhydrase II.

Description

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 ($\text{CO}_2 + \text{H}_2\text{O} \leftrightarrow \text{HCO}_3^- + \text{H}^+$), 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.

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.

Physical Appearance

Sterile Filtered colorless solution

Formulation

The Carbonic Anhydrase 2 enzyme is supplied in 20mM Tris pH-8 and 1mM DTT.

Stability

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.

Sequence

MGSSHHHHHH SSGLVPRGSH MKDIDTLISN
NALWSKMLVE EDPGFFEKLAQAQKPRFLWI
GCSDSRVPAE RLTGLEP GEL FVHRNVANLV
IHTDLNCLSV VQYAVDVLEV EHIICGHYG
CGGVQAAVEN PELGLINNWL HIRDIWFKH
SSLLGEMPQE RRLDTLCELN VMEQVYNLGH
STIMQSAWKR GQKVTIHGWA YGIHDGLLRD
LDVTATNRET LEQRYRHGIS NLKCLKHANHK