

Product Data Sheet

Cat # RP-359

Recombinant Human Carbonic Anhydrase III

**Size:** 5 ug

Carbonic anhydrase (carbonate dehydratase) is a family of metalloenzymes (enzymes that contain one or more metal atoms as a functional component of the enzyme) that catalyze the rapid (and reversible) conversion of carbon dioxide to bicarbonate and protons, a reaction that occurs rather slowly in the absence of a catalyst. Carbonic anhydrase greatly increases the rate of the reaction, with typical catalytic rates of the different forms of this enzyme ranging between 10<sup>4</sup> and 10<sup>6</sup> reactions per second. The active site of most carbonic anhydrases contains a zinc ion. CAIII is a cytoplasmic isoenzyme, but is released into the circulation following injury.

**Source:** *Escherichia Coli*. Carbonic anhydrase III Human Recombinant produced in E. Coli, and having a molecular mass of 33.9 kDa. CAIII is expressed with an amino-terminal hexahistidine tag. The CA-III is purified by proprietary chromatographic techniques. Supplied in 1x Laemmli Buffer: 25mM Tris-HCl pH6.8, 50mM DTT, 1% SDS, 0.1% Bromophenol Blue and 2.5% Glycerol.

**Applications and Suggested Dilutions:** Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. Users must optimize the appropriate concentration and conditions for each assay.

**Storage and Stability:** CAIII although stable at 14°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.** If supplied in powder then reconstitute it in 100 ul water for 1 mg/ml stock and store in liquid at 4°C for ~1 week or aliquots in suitable size and store at -20°C for long term storage.

**Usage:** This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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