

## CA3 Human

**Description:**CA3 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 260 amino acids (1-260 a.a.)and having a molecular mass of 29.5 kDa. The CA3 is purified by proprietary chromatographic techniques.

**Catalog #:**ENPS-507

**Synonyms:**Car3, CAIII, Carbonic anhydrase 3, EC 4.2.1.1, Carbonic anhydrase III, Carbonate dehydratase III, CA-III.

For research use only.

**Source:**Escherichia Coli.

**Physical Appearance:**Sterile Filtered clear colorless solution.

**Amino Acid Sequence:**MAKEWGYASH NGPDHWHELF PNAKGENQSP IELHTKDIRH  
DPSLQPWSVS YDGGSAKIL NNGKTCRVVF DDTYDRSMLR GGPLPGPYRL RQFHLHWGSS  
DDHGSEHTVD GVKYAAELHL VHWNPKYNTF KEALKQRDGI AVIGIFLKIG HENGEFQIFL  
DALDKIKTKG KEAPFTKFDP SCLFPACRDY WTYQGSFTTP PCEECIVWLL LKEPMTVSSD  
QMAKLRSLLS SA

**Purity:**Greater than 90% as determined by SDS-PAGE.

**Formulation:**

The CA3 solution contains 20mM Tris-HCl pH-8, 1mM DTT and 10% glycerol.

**Stability:**

CA3 Recombinant Human although stable at 4°C for 30 days, should be stored desiccated below -20°C for periods greater than 30 days. Please avoid 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:**

Carbonic anhydrase III is part of a multigene family that encodes carbonic anhydrase isozymes which are a class of metalloenzymes that catalyze the reversible hydration of carbon dioxide and are differentially expressed in various cell types. Carbonic anhydrase III expression is strictly tissue specific and present at high levels in skeletal muscle and much lower levels in cardiac and smooth muscle. CA3 catalyses swift conversion of carbon dioxide to bicarbonate and protons ( $\text{CO}_2 + \text{H}_2\text{O} = \text{HCO}_3 + \text{H}^+$ ). CA3 participates 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 juice. CA3 includes a zinc ion in its active site and maintains acid-base balance in blood and other tissues, and to help transport carbon dioxide of tissues.

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