
Product Data Sheet

Product Name: CA3 Human
 Cat. No.: GP21451
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Car3; CAIII; Carbonic anhydrase 3; EC 4.2.1.1; Carbonic anhydrase III; Carbonate dehydratase III; CA-III.		
Amino Acid Sequence	MAKEWGYASH NGPDHWHELP PNAKGENQSP IELHTKDIRH DPSLQPWSVS YDGGSAKTIL NNGKTCRVVF DDTYDRSMLR GGPLPGPYRL RQFHLHWGSS DDHGSEHTVD GVKYAAELHL VHWNPKYNTF KEALKQRDGI AVIGIFLKIG HENGEFQIFL DALDKIKTKG KEAPFTKFDP SCLFPACRDY WTYQGSFTTP PCEECIVWLL LKEPMTVSSD QMAKLRSLLS SAENEPVPL VSNWRPPQPI NNRVVRASFK.		
Formulation	The CA3 solution contains 20mM Tris-HCl pH-8, 1mM DTT and 10% glycerol.		

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.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

Background

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.

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