
Product Data Sheet

Product Name: CA12 Human
 Cat. No.: GP21458
 Batch No.: 1

Product Data

Purity	>98%	Source	Sf9, Baculovirus cells.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Carbonic anhydrase 12; Carbonate dehydratase XII; Carbonic anhydrase XII; CA-XII; Tumor antigen HOM-RCC-3.1.3; CA12; Carbonic Anhydrase XII; Carbonic anhydrase 12 isoform 1; CAXII; HsT18816.		
Amino Acid Sequence	APVNGSKWTY FGPDGENSWS KKYPSCGGLL QSPIDLHSDI LQYDASLTPL EFQGYNLSAN KQFLTNNNGH SVKLNLPSDM HIQGLQSRYS ATQLHLHWGN PNDPHGSEHT VSGQHFAAEL HIVHYNSDLY PDASTASNKS EGLAVLAVLI EMGSFNPSYD KIFSHLQHVK YKGQEAFFVPF FNIEELLPER TAEYYRYRGS LTTPPCNPTV LWTVFRNPVQ ISQEQLLALE TALYCTHMDD PSPREMINNF RQVQKFDERL VYTSFSQVQV CTAAGLSHHH HHH.		
Formulation	CA12 protein solution (0.5mg/ml) containing Phosphate Buffer Saline (pH7.4) and 10% glycerol.		

Introduction

Carbonic anhydrase 12 (CA12) is an enzyme that belongs to the Carbonic anhydrases (CAs) family. This is a large family of zinc metalloenzymes which catalyze the reversible hydration of carbon dioxide. They are involved in various biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. CA12 is a type I membrane protein which is highly expressed in normal tissues, such as the kidney, colon and pancreas, and is overexpressed in 10% of clear cell renal carcinomas.

Biological Activity

Specific activity is > 300 pmol/min/ug, and is defined as the amount of enzyme that hydrolyze 1.0 pmole of 4-nitrophenyl acetate to 4-nitrophenol per minute at pH 7.5 at 37C.

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

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Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

CA12 Human Recombinant produced in Sf9 Baculovirus cells is a single, glycosylated polypeptide chain containing 283 amino acids (25-301a.a.) and having a molecular mass of 31.94kDa (Migrates at 28-40kDa on SDS-PAGE under reducing conditions). CA12 is fused to a 6 amino acid His-tag at C-terminus & purified by proprietary chromatographic techniques.

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