Creative Enzymes®

Carbonic Anhydrase II from Human, Recombinant

Cat. No. NATE-0098

Lot. No. (See product label)

Introduction

Description	Carbonic anhydrase is a zinc metalloenzyme that has a molecular weight of approximately 30 kDa Da. The enzyme catalyzes the hydRation of carbon dioxide to carbonic acid. It is involved in vital processes such as pH and CO2 homeostasis, transport of bicarbonate and CO2, biosynthetic reactions, bone resorption, calcification, and tumorigenicity. Therefore, this enzyme is an important target for inhibitors with clinical applications in various pathologies such as glaucoma, epilepsy and Parkinson's disease.
Applications	Human carbonic anhydrase isozyme II has been used to assess its gene fusion abilities for efficient expression and recovery of recombinant proteins. Human carbonic anhydrase isozyme II has also been used to investigate a new process for the synthesis of difluoromethanesulfonamides. Furthermore, CA II from Creative Enzymes has been used as a standard to measure the CA activity in lung tissue homogenates. The study analysed the possible relationship between the expression of carbonic anhydrase and non-small cell lung cancer. The product has also been used with Freund's complete adjuvant at 1:1 ratio for antibody production. This study evaluated the quantitative and functional alterations of cytosolic CA isoenzymes in the erythrocytes of glucose-6-phosphate dehydrogenase (G6PD)-deficient individuals. The enzyme has also been used in the study of natural phenolic inhibitors of CA II.
Synonyms	Carbonic Anhydrase II; carbonate dehydRatase; carbonic anhydrase; anhydrase; carbonate anhydrase; carbonic acid anhydrase; carboxyanhydrase; carbonic anhydrase A; carbonate hydro-lyase; EC 4.2.1.1; CA-II; CA2; Carbonic Anhydrase 2

Product Information

Species	Human
Source	E. coli
Form	powder
EC Number	EC 4.2.1.1
CAS No.	9001-03-0
Activity	> 80%, > 3 ,000 W-A units/mg protein
Isoelectric point	~7.4
Unit Definition	One Wilbur-Anderson (W-A) unit will cause the pH of a 0.02 M Trizma buffer to drop from 8.3 to 6.3 per min at 0°C. (One W-A unit is essentially equivalent to one Roughton-Booth unit.)