

Carbonic Anhydrase II (CA2) Active Protein | CA2 active protein

Active Carbonic Anhydrase II (CA2)

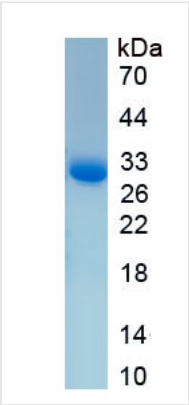
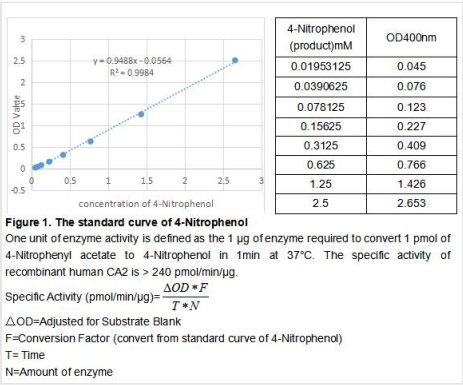
CATALOG # AAA161776	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Carbonic Anhydrase II (CA2); Active Carbonic Anhydrase II (CA2); Carbonic Anhydrase II; CA-II; CAII; Car2; CAC; Carbonate dehydratase II; Carbonic anhydrase C4; CA2 active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 95% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Trp5~Ser25 8
Applicable Applications for CA2 active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6.6
Research Area	Enzyme & Kinase, Tumor immunity, Bone metabolism
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months



Bioactivity

Carbonic Anhydrase (CA) catalyzes the reversible reaction of CO₂ + H₂O = HCO₃⁻ + H⁺, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption. CA2 is a cytosolic enzyme with the highest activity among all known CAs. Mutations in the CA2 gene result in the CA II deficiency syndrome, an autosomal recessive disorder that produces osteopetrosis, renal tubular acidosis and cerebral calcification. The activity of recombinant human CA2 was measured by its ability to hydrolyze 4-Nitrophenyl acetate (4-NPA) to 4-Nitrophenol. The reaction was performed in 12.5 mM Tris, 75 mM NaCl, pH 7.5 (assay buffer), initiated by addition 50 µL of various concentrations of CA2 (diluted by assay buffer) to 50 µL of 2 mM substrate 4-NPA (100 mM stock in Acetone, diluted by assay buffer). Incubated at 37 degree C for 5min, then read at a wavelength of 400 nm.

SDS-PAGE

Figure. SDS-PAGE

ADDITIONAL INFORMATION

Product Categories/Family for CA2 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	115456
NCBI GeneID	760
UniProt Accession #	P00918; Q6FI12; Q96ET9; B2R7G8
Molecular Weight	260
NCBI Official Full Name	Carbonic anhydrase 2
NCBI Official Synonym Full Names	carbonic anhydrase II
NCBI Official Symbol	CA2
NCBI Official Synonym Symbols	CAC; CAII; Car2; CA-II; HEL-76
NCBI Protein Information	carbonic anhydrase 2; carbonic anhydrase B; carbonic anhydrase C; carbonic dehydratase; carbonate dehydratase II; epididymis luminal protein 76
UniProt Protein Name	Carbonic anhydrase 2
UniProt Gene Name	CA2
UniProt Synonym Gene Names	CAC; CA-II
UniProt Entry Name	CAH2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.