

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

Active Carbonic Anhydrase II (CA2)

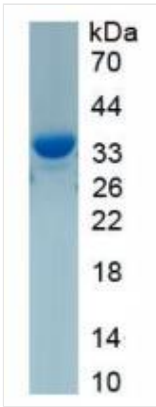
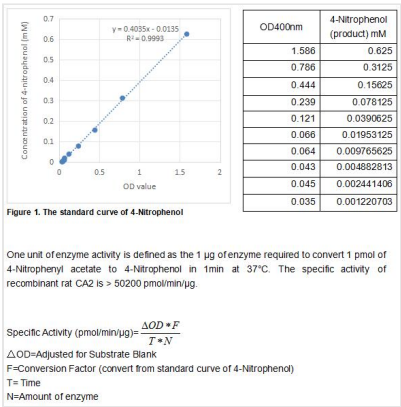
CATALOG # AAA161777	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

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	Met1~Lys26 0
Applicable Applications for CA2 active protein	Activity Assay, Cell Culture
Species	Rat
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	6.8
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



SDS-PAGE

Figure. SDS-PAGE

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 rat 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.

ADDITIONAL INFORMATION

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

NCBI GI #	9506445
NCBI GeneID	54231
NCBI Accession #	NP_062164.1
NCBI GenBank Nucleotide #	NM_019291.1
UniProt Accession #	P27139
Molecular Weight	29,114 Da
NCBI Official Full Name	carbonic anhydrase 2
NCBI Official Synonym Full Names	carbonic anhydrase 2
NCBI Official Symbol	Car2
NCBI Official Synonym Symbols	Ca2
NCBI Protein Information	carbonic anhydrase 2
UniProt Protein Name	Carbonic anhydrase 2
UniProt Gene Name	Ca2
UniProt Synonym Gene Names	CA-II

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.

