

Carbonic Anhydrase IV (CA4) Active Protein | CA4 active protein

Active Carbonic Anhydrase IV (CA4)

CATALOG # AAA161902	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

Carbonic Anhydrase IV (CA4); Active Carbonic Anhydrase IV (CA4); Carbonic Anhydrase IV; CA-IV; CAIV; Car4; RP17; Retinitis Pigmentosa 17(Autosomal Dominant); Carbonate dehydratase IV4; CA4 active protein

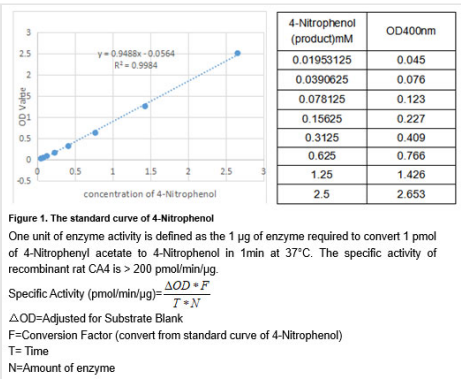
PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	>95%
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% Sarcosyl, 5% Trehalose
Sequence	Ser20~Ser2 20
Applicable Applications for CA4 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	6.4
Reconstitution	Reconstitute in ddH2O to a concentration of 0.1-1.0mg/ml. Do not vortex.
Preparation and Storage	Avoid repeated freeze/thaw cycles. Store at 2-8oC for one month. Aliquot and store at -80oC for 12 months.

IMAGES

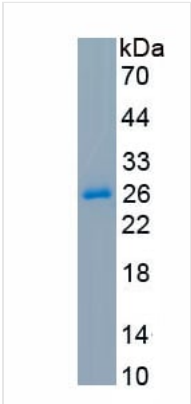
Sequence

S HWCYEIQAKE PSHCSGPEQ WTDCKKNQQ SPINIVTSKT KLNPSLTPFT
FVGYDQKKW EVKNNQHSVE MSLGEDIYIF GDLPTQYKA IQLHLHWSEE SNKGSEHSID
GKHFAEMHY VHKKNTTGDV VQSDSKDKI AVLAFNVEVG NEVNEGFGPL VEALSRLSKP
FTNSTVSESC LQDMLPEKKK LSAYFRYQGS



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. CA4 is a GPI anchored membrane enzyme expressed on the luminal surfaces of pulmonary (and certain other) capillaries and of proximal renal tubules. It functions as the principal CO₂ taste sensor. The activity of recombinant rat CA4 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 CA4 (diluted by assay buffer) to 50 µL of 2 mM substrate 4-NPA (100 mM stock in Acetone, diluted by assay buffer). Incubated at 37C for 5min, then read at a wavelength of 400 nm.



SDS-PAGE
Figure. SDS-PAGE

ADDITIONAL INFORMATION

Product Categories/Family for CA4 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	9506449
NCBI GeneID	29242
NCBI Accession #	NP_062047.1
NCBI GenBank Nucleotide #	NM_019174.3
UniProt Accession #	P48284; Q4QR97
Molecular Weight	Predicted Molecular Mass: 26.5kDa; Accurate Molecular Mass: 26kDa as determined by SDS-PAGE reducing conditions.
NCBI Official Full Name	carbonic anhydrase 4

NCBI Official Synonym Full Names	carbonic anhydrase 4
NCBI Official Symbol	Car4
NCBI Official Synonym Symbols	Ca4
NCBI Protein Information	carbonic anhydrase 4
UniProt Protein Name	Carbonic anhydrase 4
UniProt Gene Name	Ca4
UniProt Synonym Gene Names	CA-IV

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.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/carbonic-anhydrase-iv-ca4/161902>