

# Recombinant human Carbonic Anhydrase 8/CA8 protein

Catalog Number: ATGP3242

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-290aa

### UniProt No.

P35219

### NCBI Accession No.

NP\_004047

### Alternative Names

Carbonic anhydrase-related protein, CA-VIII, CALS, CAMRQ3, CARP, CA8

## PRODUCT SPECIFICATION

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### Molecular Weight

35.5 kDa (314aa) confirmed by MALDI-TOF (Molecular weight on SDS-PAGE will appear higher)

### Concentration

1mg/ml (determined by Bradford assay)

### Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 1mM DTT

### Purity

> 90% by SDS-PAGE

### Biological Activity

Specific activity is > 450pmol/min/ug, and is defined as the amount of enzyme that hydrolyze 1.0pmole of 4-nitrophenyl acetate to 4-nitrophenol per minute at pH 7.5 at 37C.

### Tag

His-Tag

### Application

SDS-PAGE, Enzyme Activity

### Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

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### Description

CA8 was initially named CA-related protein because of sequence similarity to other known carbonic anhydrase genes. However, this protein lacks carbonic anhydrase activity (i. e., the reversible hydration of carbon dioxide). It continues to carry a carbonic anhydrase designation based on clear sequence identity to other members of the

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carbonic anhydrase gene family. Defects in CA8 are the cause of cerebellar ataxia mental retardation and dysequilibrium syndrome type 3 (CMARQ3). Recombinant human CA8 protein fused to His-tag at N-terminus, was expressed in *E. coli* and purified by using conventional chromatography.

## Amino acid Sequence

<MGSSHHHHHH SSGLVPRGSH MGSH>MADLSF IEDTVAFPEK EEEEEEEEEG VEWGYEEGVE WGLVFPDANG  
EYQSPINLNS REARYDPSLL DVRLSPNYVV CRDCEVTNDG HTIQVILKSK SVLSGGPLPQ GHEFELYEVR FHWGRENQRG  
SEHTVNFKAF PMELHLIHWN STLFGSIDEA VGKPHGIAII ALFVQIGKEH VGLKAVTEIL QDIQYKGKSK TIPCFNPNTL  
LPDPLLRDYW VYEGSLTIPP CSEGVTWILF RYPLTISQLQ IEEFRRLRTH VKGAELVEGC DGILGDNFRP TQPLSDRVIR AAFQ

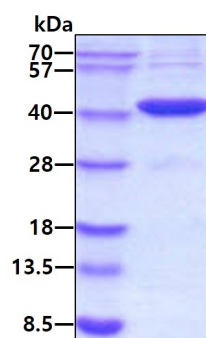
## General References

Turkmen S., et al. (2009) PLoS Genet. 5:E1000487-E1000487.

Skaggs L.A., et al. (1993) Gene. 126:291-292.

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain