

# Recombinant human Carbonic Anhydrase 13/CA13 protein

Catalog Number: ATGP3059

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-262aa

### UniProt No.

Q8N1Q1

### NCBI Accession No.

NP\_940986.1

### Alternative Names

Carbonic anhydrase 13, CAXIII, Carbonic anhydrase XIII, Carbonate dehydratase XIII

## PRODUCT SPECIFICATION

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### Molecular Weight

31.8 kDa (285aa) confirmed by MALDI-TOF

### Concentration

0.5mg/ml (determined by Bradford assay)

### Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol, 1mM DTT

### Purity

> 90% by SDS-PAGE

### Biological Activity

Specific activity is > 2,500pmol/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

CA13 also known as carbonic anhydrase 13 belongs to the alpha-carbonic anhydrase family. The carbonic anhydrase from a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons, a reversible reaction that occurs relatively slowly in the absence of catalyst. The active

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site of most carbonic anhydrases contains a zinc ion; they are classified as metalloenzymes. There are at least five distinct CA families (alpha, beta, gamma, delta, and epsilon). These families have no significant amino acid sequence similarity and in most cases are thought to be an example of convergent evolution. The alpha-CAs are found in humans. Recombinant human CA13, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

## Amino acid Sequence

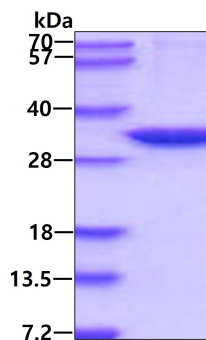
```
<MGSSHHHHHH SSGLVPRGSH MGS>MSRLSWG YREHNGPIHW KEFFPIADGD QQSPIEIKTK EVKYDSSLRP  
LSIKYDPSSA KIISNSGHSF NVDFDDTENK SVLRGGPLTG SYRLRQVHLH WGSADDHGSE HIVDGVSYAA ELHVVHWNSD  
KYPFVEAAH EPDGLAVLGV FLQIGEPNSQ LQKITDTLDS IKEK GKQTRF TNFDLLSLLP PSWDYWTYPG SLTVPPLLES  
VTWIVLKQPI NISSQQLAKF RSLLC TAEGE AAFLVSNHR PPQPLKGRKV RASFH
```

## General References

Lamesch P., et al. (2007) Genomics 89 (3), 307-315

## DATA

### SDS-PAGE



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