

# Recombinant Human Carbonic Anhydrase 4/CA4 Protein (His Tag)(Active)



Catalog Number:PKSH031585

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

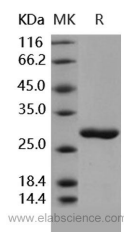
## Description

<b>Synonyms</b>	Carbonic Anhydrase 4; Carbonate Dehydratase IV; Carbonic Anhydrase IV; CA-IV; CA4;CAIV;Car4;RP17
<b>Species</b>	Human
<b>Expression Host</b>	HEK293 Cells
<b>Sequence</b>	Met 1-Lys283
<b>Accession</b>	NP_000708.1
<b>Calculated Molecular Weight</b>	31.7 kDa
<b>Observed molecular weight</b>	30 kDa
<b>Tag</b>	C-His
<b>Bioactivity</b>	Measured by its esterase activity. The specific activity is >2 pmoles/min/ $\mu$ g.

## Properties

<b>Purity</b>	> 96 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per $\mu$ g as determined by the LAL method.
<b>Storage</b>	Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



## Background

The carbonic anhydrases (or carbonate dehydratases) are classified as metalloenzyme for its zinc ion prosthetic group and form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons, a reversible reaction that takes part in maintaining acid-base balance in blood and other tissues. The carbonic anhydrase I (CA) family consists of at least 11 enzymatically active members and a few inactive homologous proteins. Carbonic anhydrase IV (CAIV) is a membrane-associated enzyme anchored to plasma membrane surfaces by a phosphatidylinositol glycan linkage. CAIV is a high-activity isozyme in CO<sub>2</sub> hydration comparable to that of CAII. Furthermore, CAIV is more active in HCO<sub>3</sub><sup>-</sup> dehydration than is CAII. However, the esterase activity of CAIV is decreased 150-fold compared to CAII.

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