

## Product datasheet

# Recombinant human Carbonic Anhydrase II protein ab167716

1 Image

### Overview

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<b>Product name</b>	Recombinant human Carbonic Anhydrase II protein
<b>Protein length</b>	Full length protein

### Description

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<b>Nature</b>	Recombinant
<b>Source</b>	HEK 293 cells

### Amino Acid Sequence

<b>Accession</b>	<a href="#">P00918</a>
<b>Species</b>	Human
<b>Sequence</b>	MSHHWGYGKHNHNGPEHWHKDFPIAKGERQSPVDIDTHTAKYDPSLKPLSVS YDQATSLRILNNGHAFNVEFDDSQDKAVLKGGPLDGTYRLIQFHFHWGSL DGQGSEHTVDKKKYAAELHLVHWNTKYGDFGKAVQQPDGLAVLGIFLKVG SAKPLQKVVVDVLDISKTKGKSADFTNFDPRGLLPESLDYWTYPGSLTTP PLLECVTWVWLKEPISVSSEQVLKFRKLNFNNGEGEPEELMVDNWRPAQPL KNRQIKASFK
<b>Molecular weight</b>	30 kDa including tags
<b>Amino acids</b>	1 to 260
<b>Tags</b>	His tag C-Terminus

### Specifications

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Our [Abpromise guarantee](#) covers the use of **ab167716** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Biological activity</b>	Measured by its esterase activity for digestion of 4-Nitrophenyl Acetate(4-NPA).The specific activity is > 150 pmoles/min/μg.
<b>Applications</b>	SDS-PAGE Functional Studies
<b>Endotoxin level</b>	< 1.000 Eu/μg

**Purity** >95% by SDS-PAGE .

**Form** Lyophilised

## Preparation and Storage

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**Stability and Storage** Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

pH: 8.00  
Constituents: 0.02% DTT, 0.24% Tris, 0.88% Sodium chloride  
Note: Normally Mannitol or Trehalose are added as protectants before lyophilization.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

**Reconstitution** It is recommended to reconstitute the lyophilized protein in 500µl sterile deionized water to a final concentration of 0.200 mg/ml. Solubilize for 30 to 60 minutes at room temperature with occasional gentle mixing. Carrier protein (0.1% HSA or BSA) is strongly recommended for further dilution and long term storage.

## General Info

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**Function** Essential for bone resorption and osteoclast differentiation (By similarity). Reversible hydration of carbon dioxide. Can hydrates cyanamide to urea. Involved in the regulation of fluid secretion into the anterior chamber of the eye.

**Involvement in disease** Defects in CA2 are the cause of osteopetrosis autosomal recessive type 3 (OPTB3) [MIM:259730]; also known as osteopetrosis with renal tubular acidosis, carbonic anhydrase II deficiency syndrome, Guibaud-Vainsel syndrome or marble brain disease. Osteopetrosis is a rare genetic disease characterized by abnormally dense bone, due to defective resorption of immature bone. The disorder occurs in two forms: a severe autosomal recessive form occurring in utero, infancy, or childhood, and a benign autosomal dominant form occurring in adolescence or adulthood. Autosomal recessive osteopetrosis is usually associated with normal or elevated amount of non-functional osteoclasts. OPTB3 is associated with renal tubular acidosis, cerebral calcification (marble brain disease) and in some cases with mental retardation.

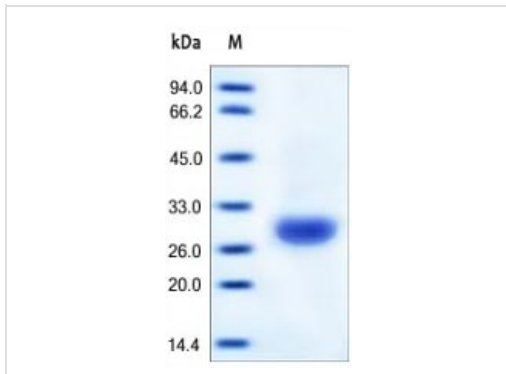
**Sequence similarities** Belongs to the alpha-carbonic anhydrase family.

**Cellular localization** Cytoplasm.

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## Images

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SDS-PAGE of reduced ab167716 stained overnight with Coomassie Blue.

SDS-PAGE - Carbonic Anhydrase II protein (Active)  
(ab167716)

**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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