

**Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein**  
**CA2, CA-II, CAII, Car2**  
**Catalog # PBV11100r****Specification****Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein - Product info**Primary Accession  
Calculated MW[P00918](#)

This protein is fused with 6×His tag at the C-terminus, has a calculated MW of 30 kDa. The predicted N-terminus is Ser 2. DTT-reduced Protein migrates as 30 kDa. KDa

**Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein - Additional Info**Gene ID  
Gene Symbol  
**Other Names**  
CA2, CA-II, CAII, Car2**760**  
**CA2**Gene Source  
Source  
Assay&Purity  
Assay2&Purity2  
Recombinant  
Results

**Human**  
**HEK293 cells**  
**SDS-PAGE; ≥95%**  
**N/A;**  
**Yes**  
**Measured by its esterase activity for digestion of 4Nitrophenyl Acetate (4NPA). The specific activity is > 150 pmoles/min/μg.**

**Target/Specificity**  
Carbonic Anhydrase 2/CA2**Application Notes**

Centrifuge the vial prior to opening. Reconstitute in sterile PBS, pH 7.4 to a concentration of 50 μg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 month. For extended storage, it is recommended to store at -20°C.

**Format**  
Lyophilized**Storage**  
-20°C; Lyophilized from 0.22 μm filtered solution in 20 mM Tris, pH 8.0, with 150 mM NaCl, 1 mM DTT. Normally Mannitol or Trehalose is added as protectants before lyophilization.**Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein - Images**

#### **Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein - Background**

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes. CAs form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons (or vice versa), a reversible reaction that occurs rather slowly in the absence of a catalyst. One of the functions of the enzyme in animals is to interconvert carbon dioxide and bicarbonate to maintain acid-base balance in blood and other tissues, and to help transport carbon dioxide out of tissues. The active site of most carbonic anhydrases contains a zinc ion. They are, therefore, 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. Carbonic anhydrase II (CA2) also known as Carbonate dehydratase II, Carbonic anhydrase C, is one of fourteen forms of human  $\alpha$  carbonic anhydrases. Defects in this enzyme are associated with osteopetrosis and renal tubular acidosis. Renal carbonic anhydrase allows the reabsorption of sodium ions in the proximal tubule. Carbonic anhydrase II has been shown to interact with Band 3 and Sodium-hydrogen antiporter 1.

#### **Human CellExp Carbonic Anhydrase 2/CA2, human recombinant protein - References**

Montgomery J.C., et al. Nucleic Acids Res. 15:4687-4687(1987).  
Murakami H., et al. Genomics 1:159-166(1987).  
Halleck A., et al. Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.  
Ota T., et al. Nat. Genet. 36:40-45(2004).  
Mural R.J., et al. Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.