

# **Recombinant Human Carbonic anhydrase 12 Protein**

Catalog No.: RP00157 Recombinant

## **Sequence Information**

Species Gene ID Swiss Prot Human 771 043570

**Tags** C-His

Synonyms

CA12;CA-XII;CAXII;HsT18816;T18816

## **Product Information**

**Source** Purification HEK293 cells ≥ 90 % as

determined by SDS-

PAGE.

Calculated MW Observed MW

31.03 kDa 35-40 kDa

#### **Endotoxin**

< 0.1 EU/ $\mu$ g of the protein by LAL method.

#### Formulation

Lyophilized from a 0.22 µm filtered solution of PBS, pH 7.4.Contact us for customized product form or formulation.

#### Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## **Contact**

| <b>a</b> | 400-999-6126              |
|----------|---------------------------|
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## **Background**

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. CAs participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. CA12, also known as Car12 and carbonic anhydrase XII, is a type I membrane enzyme that is highly expressed in normal tissues, such as colon, kidney, prostate, intestine and activated lymphocytes and moderately expressed in pancreas, ovary, and testis. It has been found to be overexpressed in 10% of clear cell renal carcinomas.

#### **Basic Information**

#### Description

Recombinant Human Carbonic anhydrase 12 Protein is produced by HEK293 expression system. The target protein is expressed with sequence (Ala25-Gln291) of human Carbonic Anhydrase XII/CA12 (Accession  $\#NP_001209.1$ ) fused with a  $6\times His$  tag at the C-terminus.

#### **Bio-Activity**

Measured by its esterase activity. The specific activity is >48 pmoles/min/ $\mu$ g, as measured with 1 mM 4-Nitrophenyl acetate and 1  $\mu$ g enzyme at 400 nm in 100  $\mu$ L of 12.5 mM Tris, 75 mM NaCl, pH 7.5.

#### **Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

### Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

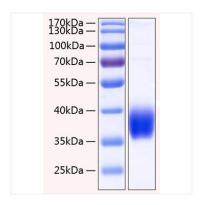
Avoid repeated freeze/thaw cycles.

#### Operational Notes

For your safety and health, please wear a lab coat and disposable gloves for handling.

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## **Validation Data**



Recombinant Human Carbonic anhydrase 12 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.