

Recombinant Human Carbonic anhydrase 12 Protein

Catalog No.: RP00157 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
Human	771	O43570

Tags

C-His

Synonyms

CA12;CA-XII;CAXII;HsT18816;T18816

Product Information

Source	Purification
HEK293 cells	> 90% by SDS-PAGE.

Calculated MW	Observed MW
31.03 kDa	35-40 kDa

Endotoxin

< 0.1 EU/μg 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 stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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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×His tag at the C-terminus.

Bio-Activity

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

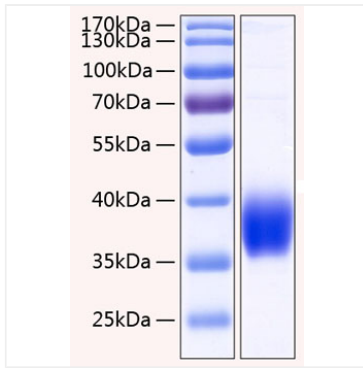
Storage

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.

Validation Data



Recombinant Human Carbonic anhydrase 12 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 40-50 kDa.