Recombinant Human Carbonic Anhydrase XII/CA12 Protein (His Tag)

Catalog Number:PKSH031505

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

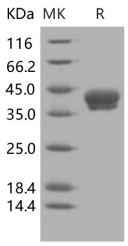
Description

Synonyms	CA12;CAXII;FLJ20151;HsT18816
Species	Human
Expression Host	HEK293 Cells
Sequence	Met 1-Gln 291
Accession	NP_001209.1
Calculated Molecular Weight	31.6 kDa
Observed molecular weight	40-45 kDa
Tag	C-His
Bioactivity	Measured by its esterase activity. The specific activity is > 40 pmoles/min/μg, as measured with 1 mM 4-Nitrophenyl acetate and 2. 5 μg enzyme at 400 nm in 100 μL of 12.5 mM Tris, 75 mM NaCl, pH 7.5.

Properties

Purity	> 97 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 97 % as determined by reducing SDS-PAGE.

Background

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes first discovered in 1933 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 of an N-terminal extracellular catalytic domain, a membrane-spanning α-helix, and a small intracellular C-terminal domain. It is highly expressed in colon,

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kidney, prostate, intestine and activated lymphocytes and moderately expressed in pancreas, ovary, and testis. Overexpression of the CA12 is observed in certain human cancers and is used as a tumor marker. rmCA12 corresponds to the extracellular domain and has both carbonic anhydrase activity and esterase activity.

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