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

Catalog Number: PKSM040916

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

Description

Species	Mouse
Source	HEK293 Cells-derived Mouse Carbonic Anhydrase XII/CA12 protein Met 1-Ser 301, with an C-terminal His
Calculated MW	32.8 kDa
Observed MW	40-45 kDa
Accession	NP_848483.2
Bio-activity	Measured by its esterase activity. The specific activity is > 50 pmoles/min/μg, as measured with 1 mM 4-Nitrophenyl acetate and 0.4 μg enzyme at 400 nm in 100 μL of 12.5 mM Tris, 75 mM NaCl, pH 7.5.

Properties

Purity	> 95 % 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% Tween 80 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

> 95 % 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, 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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