

Recombinant Mouse Carbonic Anhydrase 14/Car14 Protein (His Tag)(Active)



Catalog Number:PKSM040917

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

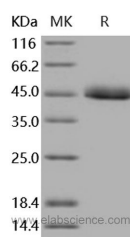
Description

Synonyms	Carbonic Anhydrase 14; Carbonate Dehydratase XIV; Carbonic Anhydrase XIV; CA-XIV; CA14;Ca14;Car14;Catm
Species	Mouse
Expression Host	HEK293 Cells
Sequence	Met 1-Met 290
Accession	NP_035927.1
Calculated Molecular Weight	32.2 kDa
Observed molecular weight	45-48 kDa
Tag	C-His
Bioactivity	Measured by its esterase activity. The specific activity is >400 pmoles/min/μg, as measured with 1 mM 4-Nitrophenyl acetate and 0.8 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 SDS-PAGE
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 25mM Tris, 0.15mM NaCl, pH 7.5
Reconstitution	Please refer to the printed manual for detailed information.

Data



Background

The carbonic anhydrases (or carbonate dehydratases) are classified as metalloenzyme for its zinc ion prosthetic group and form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons, a reversible reaction that takes part in maintaining acid-base balance in blood and other tissues. The carbonic anhydrase (CA) family consists of at least 11 enzymatically active members and a few inactive homologous proteins. CAXIV is a member of CA family that showed an overall similarity of 29–46% to other active CA isozymes. The highest percentage similarity was with a transmembrane CA isoform, CAXII. The CAXIV was found high concentrations in human heart, brain, liver, and skeletal muscle but lower in the colon, small intestine, urinary bladder, and kidney. No CAXIV mRNA

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was seen in the salivary gland and pancreas. CAXIV is a likely candidate for the extracellular CA postulated to have an important role in modulating excitatory synaptic transmission in brain.

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