Data Sheet (Cat.No.TMPY-02302)

TargetMol

Carbonic Anhydrase 10 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	carbonic anhydrase X;BB085816;RP23-448I9.1;Car10;2700029L05Rik;Ca10
Protein Construction:	A DNA sequence encoding the mouse Car10 (P61215) (Met 1-Asn 300) was expressed, fused with a C-terminal polyhistidine tag. Predicted N terminal: Gln 23
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	P61215
Molecular Weight:	33.1 kDa (predicted); 38 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its esterase activity. The specific activity is >10 pmoles/min/μg.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 25 mM Tris, 150 mM NaCl, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Carbonic anhydrase X, also called carbonic anhydrase - related protein X (CARPX) and CA1, belongs to the CA family of zinc metalloenzymes which catalyze the reversible hydration of carbon dioxide in various biological processes such as respiration, renal tubular acidification and bone resorption. The secreted protein CARPX without CA activity (hydration of CO2) is identified as an acatalytic member of the alpha-carbonic anhydrase subgroup. CARP X expression is detected in the adult total brain and almost all parts of the central nervous system, but not in

the fetal brain. Accordingly, CARP X is suggested to play a role in the development of central nervous system, especially the brain. The same CARP X protein are encoded by multiple transcript variants of this gene.

Reference

Okamoto, N. et al., 2001, Biochim. Biophys. Acta 1518:311-316.
Taniuchi, K. et al., Neuroscience 112: 93-99.
Supuran, C.T. et al., 2003, Med. Res. Rev. 23: 146-189.

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