Data Sheet (Cat.No.TMPY-07021)

TargetMol

Carbonic Anhydrase 4 Protein, Human, Recombinant (His), Biotinylated

General Information

Synonyms:	RP17;Car4;CAIV
Protein Construction:	A DNA sequence encoding the human CA4 (NP_000708.1) (Met1-Lys283) without the pro peptide was expressed with a polyhistidine tag at the C-terminus. The purified protein was biotinylated in vitro.
Species:	Human
Expression Host:	CHO Cells
Accession:	P22748-1
Molecular Weight:	31.69 kDa (predicted); 33 kDa (reducing contition)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile PBS, pH 7.4. Please contact us for any concerns or special requirements. 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 hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:

Please refer to the lot-specific COA.

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

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 anhydrasekl (CA) family consists of at least 11 enzymatically active members and a few inactive homologous proteins. Carbonic anhydrase IV (CAIV) is a membrane-associated enzyme anchored to plasma membrane surfaces by a phosphatidylinositol glycan linkage. CAIV is a high-activity isozyme in CO2hydration comparable to that of CAII. Furthermore, CAIV is more active in HCO3-dehydration than is CAII. However, the esterase activity of CAIV is decreased 150-fold compared to CAII.

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