Data Sheet (Cat.No.TMPK-00283)

TargetMol

Carbonic Anhydrase 9 Protein, Human, Recombinant (His & Avi)

General Information

Synonyms:	RCC;EC 4.2.1.1;CA9;Carbonic Anhydrase IX;P54/58N;MN;CA-IX;CAIX;G250;PMW1
Protein Construction:	Gln38-Asp414
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q16790
Molecular Weight:	43.7 kDa (predicted). Due to glycosylation, the protein migrates to 50-60 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Immobilized Human CA9, His Tag at 1μg/ml (100μl/Well) on the plate. Dose response curve for Anti-CA9 Antibody, hFc Tag with the EC50 of 8.0ng/ml determined by ELISA.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
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 50 mM Tris, 150 mM NaCl (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

CA9 is a member of the carbonic anhydrases' family, that is often expressed in cancer cells under hypoxic condition. CA9 expression potentially contributes to the regulation of cancer cell differentiation and mediates tumour-associated genes and signalling pathways, including apoptosis, hypoxia, G2M checkpoint, PI3K/AKR/mTOR signalling and TGF-beta signalling pathways.

Reference

Potter C, Harris A L. Hypoxia Inducible Carbonic Anhydrase IX, Marker of Tumour: Hypoxia, Survival Pathway and Therapy Target[J]. Cell Cycle, 2004, 3(2):159-162.

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