

## Carbonic Anhydrase 9 Protein, Mouse, Recombinant (His), Biotinylated

### General Information

Synonyms:	Car9;Ca9
Protein Construction:	A DNA sequence encoding the Mouse CA9 (NP_647466.2) (Met1-Asp390) was expressed with a polyhistidine tag at the C-terminus. The purified protein was biotinylated in vitro.
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q8VHB5
Molecular Weight:	40.3 kDa (predicted); 51 kDa (reducing condition, due to glycosylation)

### 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:	≥ 95% 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

Carbonic anhydrases IX (CA IX), also known as membrane antigen MN or CA9, is a member of the carbonic anhydrase (CA) family and may be involved in cell proliferation and cellular transformation. CAs are zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide ( $H_2O + CO_2 = H^+ + HCO_3^-$ ) and thus participate in a variety of biological and physical processes. CA IX protein is expressed primarily in carcinoma cells

lines, and the expression is cell density dependent and has been shown to be strongly induced by hypoxia, accordingly facilitates adaptation of tumor cells to hypoxic conditions. It is involved in tumorigenesis through many pathways, such as pH regulation and cell adhesion control. CA IX is used as a marker of tumor hypoxia and as a new therapeutic target for many human carcinomas and cancers. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

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