

# Recombinant Mouse Carbonic Anhydrase IX/CA9 Protein

Catalog No.: RP01495 **Recombinant**

## Sequence Information

**Species**    **Gene ID**    **Swiss Prot**  
 Mouse        230099        Q8VHB5

**Tags**

C-His

**Synonyms**

CAIX;CA9;CA-IX;G250;MN;P54;58N;pMW1;CA9

## 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.

## Product Information

**Source**                    **Purification**  
 HEK293 cells             $\geq 95\%$  as  
                                   determined by SDS-PAGE.

**Calculated MW**    **Observed MW**  
 39.68 kDa            40-55 kDa

**Endotoxin**  
 < 0.1 EU/ $\mu$ g of the protein by LAL method.

**Formulation**  
 Lyophilized from a 0.22  $\mu$ m filtered solution of PBS, pH 7.4.

**Reconstitution**  
 Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize freeze/thaw cycles.

## Basic Information

**Description**

Recombinant Mouse Carbonic Anhydrase IX/CA9 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Gln32-Asp390) of mouse Carbonic Anhydrase IX/CA9 (Accession #NP\_647466.2) fused with a 6xHis tag at the C-terminus.

**Bio-Activity**

Measured by its esterase activity. The specific activity is  $>750$  pmol/min/ $\mu$ g, as measured under the described conditions.

**Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Storage**

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

**Operational Notes**

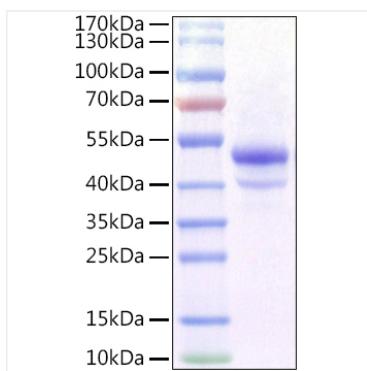
For your safety and health, please wear a lab coat and disposable gloves for handling.

## Contact

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## Validation Data

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Recombinant Mouse Carbonic Anhydrase IX/CA9 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.