Human Carbonic Anhydrase IX / CA9 (138-414) Protein, His Tag (MALS verified)

Catalog # CA9-H5220

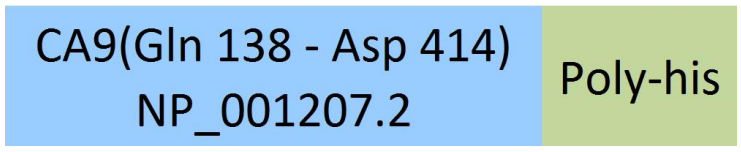
Synonym

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

Source

Human Carbonic Anhydrase IX (138-414), His Tag(CA9-H5220) is expressed from human 293 cells (HEK293). It contains AA Gln 138 - Asp 414 (Accession # NP_001207.2).
Predicted N-terminus: Gln 138

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 30.9 kDa. The protein migrates as 34 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Supplied as 0.2 μm filtered solution in 50 mM Tris, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with dry ice, please inquire the shipping cost.

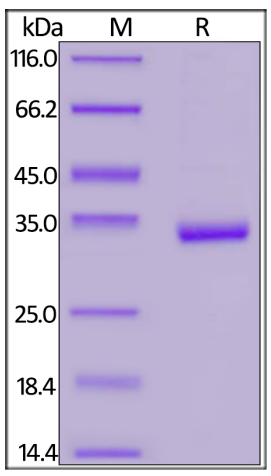
Storage

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

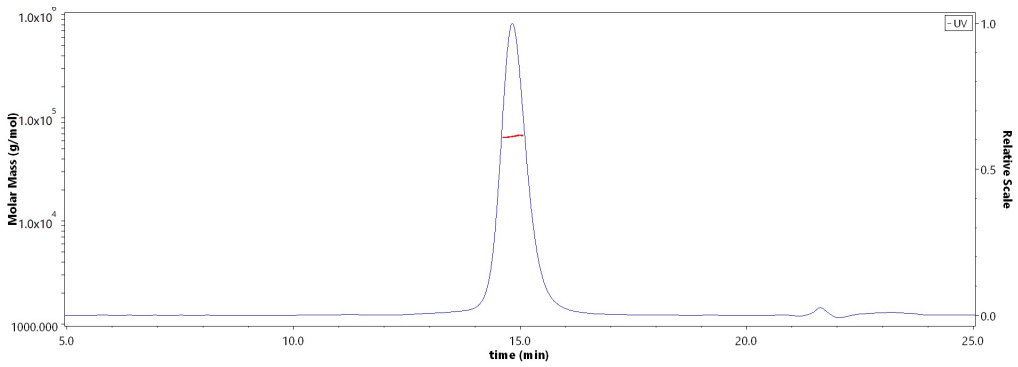
- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 3 months under sterile conditions.

SDS-PAGE



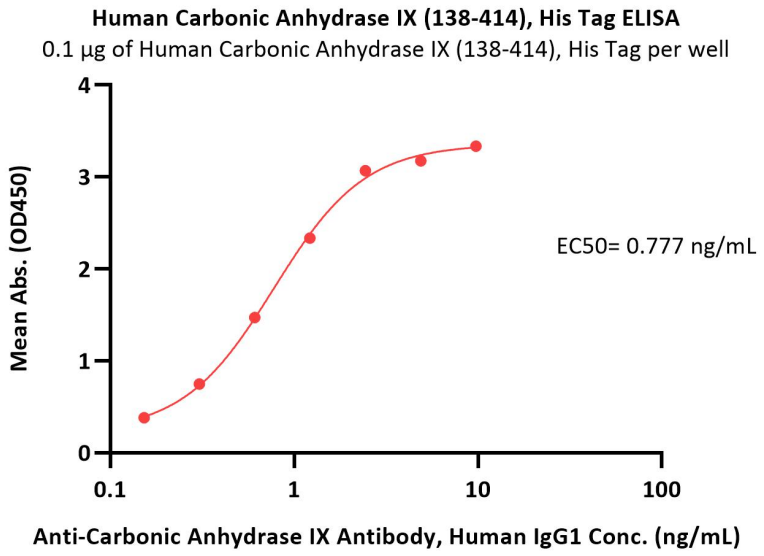
Human Carbonic Anhydrase IX (138-414), His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS



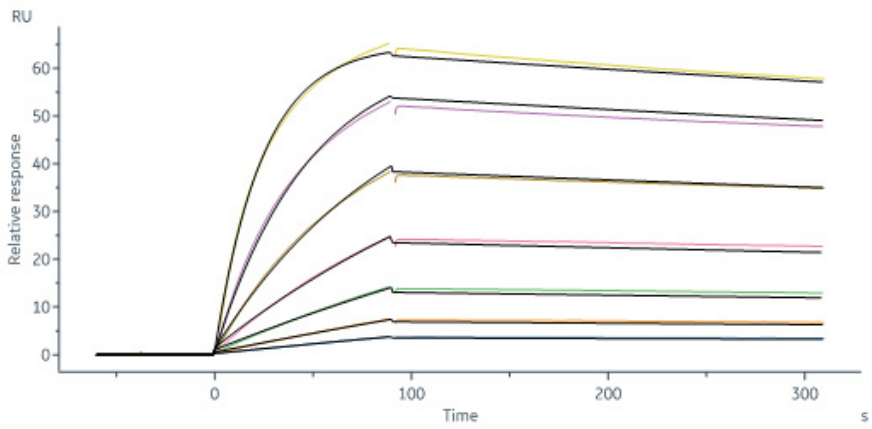
The purity of Human Carbonic Anhydrase IX (138-414), His Tag (Cat. No. CA9-H5220) is more than 90% and the molecular weight of this protein is around 60-70 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA



Immobilized Human Carbonic Anhydrase IX (138-414), His Tag (Cat. No. CA9-H5220) at 1 μg/mL (100 μL/well) can bind Anti-Carbonic Anhydrase IX Antibody, Human IgG1 (Cat. No. AM213) with a linear range of 0.3-1.2 ng/mL (QC tested).

Bioactivity-SPR



Anti-Carbonic Anhydrase IX Antibody captured on Protein A Chip can bind Human Carbonic Anhydrase IX (138-414), His Tag (Cat. No. CA9-H5220) with an affinity constant of 1.29 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Background

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes. CAs form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons (or vice versa), a reversible reaction that occurs rather slowly in the absence of a catalyst. One of the functions of the enzyme in animals is to interconvert carbon dioxide and bicarbonate to maintain acid-base balance in blood and other tissues, and to help transport carbon dioxide out of tissues. The active site of most carbonic anhydrases contains a zinc ion. There are at least five distinct CA families (α, β, γ, δ and ε).
Carbonic anhydrase 9 (CA9 / CAIX) is also known as Membrane antigen MN (MN), Renal cell carcinoma-associated antigen G250, which belongs to the alpha-carbonic anhydrase family. CA9 / CAIX with an optimal activity at pH 6.49. Reversible hydration of carbon dioxide. CA IX participates in pH regulation. CA9 may be involved in the control of cell proliferation and transformation. CA-IX appears to be a novel specific biomarker for a cervical neoplasia.