

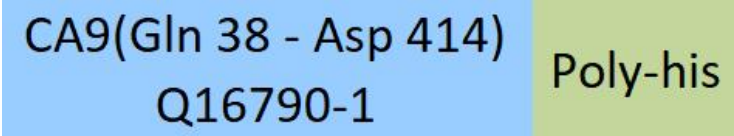
**Synonym**

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

**Source**

APC-Labeled Human Carbonic Anhydrase IX (38-414) Protein, His Tag (CA9-HA2H7) is produced via conjugation of APC to Human Carbonic Anhydrase IX (38-414) Protein, His Tag with a new generation site-specific technology under optimal conditions with a proprietary technology. Human Carbonic Anhydrase IX (38-414) Protein, His Tag is expressed from human 293 cells (HEK293). It contains AA Gln 38 - Asp 414 (Accession # [Q16790-1](#)).

Predicted N-terminus: Gln 38

**Molecular Characterization**


This protein carries a polyhistidine tag at the C-terminus

The protein has a calculated MW of 44.5 kDa.

**Conjugate**

APC

Excitation Wavelength: 640 nm

Emission Wavelength: 661 nm

**Application**

Please note that this product is NOT compatible to streptavidin detection system.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, 0.5% BSA, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

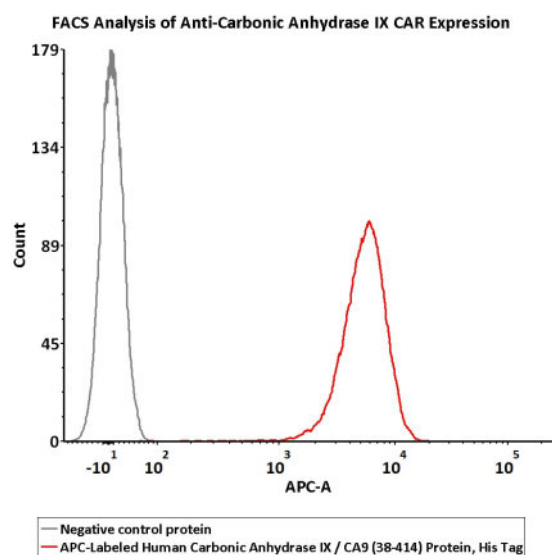
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please protect from light and avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**Bioactivity-FACS**

5e5 of anti-Carbonic Anhydrase IX CAR-293 cells were stained with 100 µL of 1:50 dilution (2 µL stock solution in 100 µL FACS buffer) of APC-Labeled Human Carbonic Anhydrase IX (38-414) Protein, His Tag (Cat. No. CA9-HA2H7) and negative control protein respectively. APC signal was used to evaluate the binding activity (QC 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 ( $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$  and  $\epsilon$ ).

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.

**Clinical and Translational Updates**

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.