

# Human Carbonic Anhydrase IX(CA9) Protein; His Tag

## Product Information

<b>Product Name</b>	Human Carbonic Anhydrase IX(CA9) Protein; His Tag
<b>Storage temp</b>	Store at $\leq -70^{\circ}\text{C}$ , stable for 6 months after receipt. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.
<b>Catalog# / Size</b>	<b>GM-88603RP-100 / 100 <math>\mu\text{g}</math></b> <b>GM-88603RP-1000 / 1 mg</b>

## Protein Information

<b>Alternative Names</b>	CAIX, CA-IX, G250, MN, P54, 58N, pMW1
<b>Source</b>	Human Carbonic Anhydrase IX(CA9) Protein; His Tag (GM-88603RP) is expressed from human 293 cells (HEK-293). It contains AA Gln38-Asp414 (Accession # Q16790-1). This protein carries a His tag at the C-terminus.
<b>Purity</b>	> 95% as determined by SDS-PAGE
<b>Endotoxin</b>	< 1 EU/ $\mu\text{g}$ , determined by LAL gel clotting assay
<b>Predicted Mol Mass</b>	41.8 kDa
<b>Formulation</b>	Supplied as a 0.2 $\mu\text{m}$ filtered solution of PBS, pH7.2-7.4.
<b>Description</b>	Carbonic Anhydrase IX (CA9) protein, full name Carbonic Anhydrase 9, is an important cell membrane-associated protein and a member of the alpha-carbonic anhydrase family. CA9 protein plays a crucial role in regulating pH homeostasis, catalyzing the reversible hydration of carbon dioxide to bicarbonate and protons, thereby maintaining intracellular pH balance and supporting cellular metabolism in normal physiological conditions, particularly under hypoxic stress. Currently, several CA9-targeted therapeutic strategies are under investigation in preclinical and clinical settings, including monoclonal antibodies (e.g., girentuximab), small-molecule inhibitors (e.g., acetazolamide derivatives), and antibody-drug conjugates (ADCs) and chimeric antigen receptor (CAR)-T cell therapies targeting CA9. In summary, CA9 protein plays a pivotal role in tumor progression and hypoxia adaptation, and is of great significance for understanding the mechanisms of tumor metabolism, developing targeted diagnostic and therapeutic strategies, and evaluating patient prognosis, particularly in renal cell carcinoma and other hypoxia-associated malignancies.

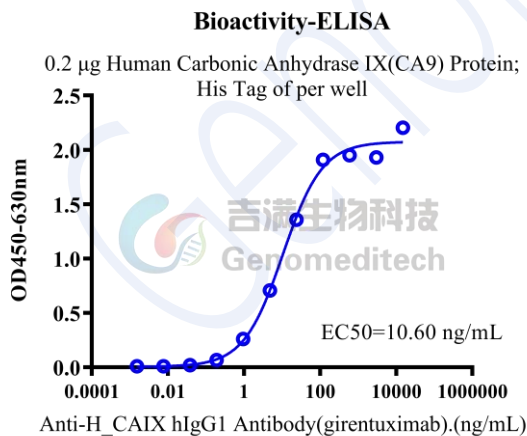
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## SDS-PAGE



On SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

## Bioactivity-ELISA



Human Carbonic Anhydrase IX(CA9) Protein; His Tag (Catalog # GM-88603RP) was immobilized at 2 µg/ml (100 µL/well). Increasing concentrations of Anti-H\_CAIX hIgG1 Antibody(girentuximab) (Catalog # GM-27130AB) were added.