



Recombinant Protein Technical Manual

**Recombinant Human Carbonic Anhydrase 9/CA9
Protein (Fc Tag)(Active)**
RPES0372

Product Data:

Product SKU: RPES0372

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_001207.2

Protein Information:

Molecular Mass: 67.7 kDa

AP Molecular Mass: 80-90 kDa

Tag: C-Fc

Bio-activity: Measured by its esterase activity. The specific activity is >50 pmoles/min/µg, as measured with 1 mM 4-Nitrophenyl acetate and 1 µg enzyme at 400 nm in 100 µL of 12.5 mM Tris, 75 mM NaCl, pH 7.5.

Purity: > 90 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

Shipping: This product is provided as lyophilized powder which is shipped with ice packs.

Formulation: Lyophilized from sterile 100mM Glycine, 10mM NaCl, 50mM Tris, pH 7.5

Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: CAIX;Carbonic Anhydrase IX;MN

Immunogen Information:

Sequence: Met 1-Asp 414

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 ($\text{H}_2\text{O} + \text{CO}_2 = \text{H}^+ + \text{HCO}_3^-$) 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.