



Recombinant Protein Technical Manual

**Recombinant Human Carbonic Anhydrase XII/CA12
Protein (His Tag)(Active)**
RPES1735

Product Data:

Product SKU: RPES1735

Size: 10µg

Species: Human

Expression host: HEK293 Cells

Uniprot: NP_001209.1

Protein Information:

Molecular Mass: 31.6 kDa

AP Molecular Mass: 40-45 kDa

Tag: C-His

Bio-activity: Measured by its esterase activity. The specific activity is >40 pmoles/min/µg, as measured with 1 mM 4-Nitrophenyl acetate and 2.5 µg enzyme at 400 nm in 100 µL of 12.5 mM Tris, 75 mM NaCl, pH 7.5.

Purity: > 97 % 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 PBS, pH 7.4

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

Application:

Synonyms: CA12;CAXII;FLJ20151;HsT18816

Immunogen Information:

Sequence: Met 1-Gln 291

Background:

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes first discovered in 1933 that catalyze the reversible hydration of carbon dioxide. CAs participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. CA12, also known as Car12 and carbonic anhydrase XII, is a type I membrane enzyme of an N-terminal extracellular catalytic domain, a membrane-spanning α -helix, and a small intracellular C-terminal domain. It is highly expressed in colon, kidney, prostate, intestine and activated lymphocytes and moderately expressed in pancreas, ovary, and testis. Overexpression of the CA12 is observed in certain human cancers and is used as a tumor marker. rmCA12 corresponds to the extracellular domain and has both carbonic anhydrase activity and esterase activity.