Data Sheet (Cat.No.TMPY-01706)

TargetMol

Carbonic Anhydrase 8 Protein, Human, Recombinant (His)

General Information

Synonyms: CAMRQ3;carbonic anhydrase VIII;MGC120502;CARP;CA-VIII;CALS;MGC99509

Protein Construction: A DNA sequence encoding the human CA8 (NP_004047.3) (Met 1-Gln 290) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1

Species: Human

Expression Host: E. coli

Accession: P35219

Molecular Weight: 33.8 kDa (predicted); 37 kDa (reducing conditions)

QC Testing

Biological Activity: Measured by its esterase activity. The specific activity is >100 pmoles/min/μg.

Purity: > 94 % as determined by SDS-PAGE

Endotoxin: Please contact us for more information.

Formulation: Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, 15% glycerol, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The carbonic anhydrases (or carbonate dehydratases) are classified as metalloenzyme for its zinc ion prosthetic group and form a family of enzymes that catalyze the rapid interconversion of carbon dioxide and water to bicarbonate and protons, a reversible reaction that takes part in maintaining acid-base balance in blood and other tissues. The carbonic anhydrasekl (CA) family consists of at least 11 enzymatically active members and a few inactive homologous proteins. Carbonic anhydrase protein (CA) VIII, which is a member of the CA gene family, has

been shown to have no catalytic CA activity and its biological function is still unknown. Increased expression of CA-RP VIII was observed in 78% of colorectal carcinomas. It suggested that CA-RP VIII plays a role in the process of invasion in colorectal cancer.

Reference

Lehtonen J,et al.(2004) Characterization of CA XIII, a Novel Member of the Carbonic Anhydrase Isozyme Family. The Journal of Biological Chemistry. 279: 2719-27.
Lindskog S. (1997) Structure and mechanism of carbonic anhydrase. Pharmacology & Therapeutics. 74(1): 1-20.
Baird TT,et al.(1997) Catalysis and Inhibition of Human Carbonic Anhydrase IV. Biochemistry. 36 (9): 2669-78.