

Carbonic Anhydrase 7 Protein, Human, Recombinant (His)

General Information

Synonyms:	CAVII;carbonic anhydrase VII
Protein Construction:	A DNA sequence encoding the human CA7 (P43166) (Met 1-Ala 264) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P43166
Molecular Weight:	31 kDa (predicted); 33 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its esterase activity. The activity is >20 pmoles/min/μg.
Purity:	> 90 % 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, pH 7.4. 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

Carbonic anhydrase 7, also known as carbonate dehydratase VII, carbonic anhydrase VII, CA-VII and CA7, is a cytoplasm protein which belongs to the alpha-carbonic anhydrase family. Carbonic anhydrases are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They 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. Carbonic anhydrases show extensive diversity in

tissue distribution and in their subcellular localization. CA7 / CA-VII is predominantly expressed in the salivary glands. Alternative splicing in the coding region results in multiple transcript variants encoding different isoforms.

Reference

- Montgomery J.C., et al., 1991, Genomics 11:835-848.
Temperini C., et al., 2006, Chemistry 12:7057-7066.
Temperini C., et al., 2007, Bioorg. Med. Chem. Lett. 17:628-635.
Maresca A., et al., 2009, J. Am. Chem. Soc. 131:3057-3062.

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