

## Carbonic Anhydrase 2 Protein, Human (C-His)

<b>Cat. No.:</b>	HY-P72860A
<b>Synonyms:</b>	Carbonic anhydrase 2; Carbonic anhydrase C; CAC; CA-II; CA2
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	NP_000058.1 (S2-K260)
<b>Gene ID:</b>	760
<b>Molecular Weight:</b>	Approximately 33.05 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> M S H H W G Y G K H   N G P E H W H K D F   P I A K G E R Q S P   V D I D T H T A K Y D P S L K P L S V S   Y D Q A T S L R I L   N N G H A F N V E F   D D S Q D K A V L K G G P L D G T Y R L   I Q F H F H W G S L   D G Q G S E H T V D   K K K Y A A E L H L V H W N T K Y G D F   G K A V Q Q P D G L   A V L G I F L K V G   S A K P G L Q K V V D V L D S I K T K G   K S A D F T N F D P   R G L L P E S L D Y   W T Y P G S L T T P P L L E C V T W I V   L K E P I S V S S E   Q V L K F R K L N F   N G E G E P E E L M V D N W R P A Q P L   K N R Q I K A S F K           </pre>
<b>Biological Activity</b>	Measured by its esterase activity. The specific activity is 1851.84 pmol/min/μg, as measured under the described conditions.
<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, pH 8.0.
<b>Endotoxin Level</b>	<1 EU/μg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	Carbonic Anhydrase 2 Protein is a member of the carbonic anhydrase isozyme family, responsible for catalyzing the reversible hydration of carbon dioxide. Dysregulation of this enzyme is linked to conditions such as osteopetrosis and renal tubular acidosis. Two transcript variants encoding distinct isoforms have been identified. In addition to its fundamental role
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in carbon dioxide metabolism, the protein exhibits biased expression in various tissues, with notable levels in the stomach and colon, as well as eight other tissues. This tissue-specific expression profile suggests its potential involvement in specialized physiological processes beyond its well-established functions in acid-base balance.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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