

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Carbonic Anhydrase III/CA3 in Western blots. In Western blots, less than 5% cross-reactivity with recombinant human (rh) CA1, 2, 4, 8, 9, 10 and 14 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Carbonic Anhydrase III/CA3 Ala2-Lys260 Accession # P07451
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human Carbonic Anhydrase III (Catalog # 2185-CA)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Carbonic Anhydrase (CA) catalyzes the reversible reaction of  $\text{CO}_2 + \text{H}_2\text{O} = \text{HCO}_3^- + \text{H}^+$ , which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1).

Topics in a CA meeting (6<sup>th</sup> International Conference on the CAs, June 20-25, 2003, Slovakia) ranged from the use of CAs as markers for tumor and hypoxia in the clinic, as a nutritional supplement in milk, and as a tool for CO<sub>2</sub> removal and mosquito control in industry. CA3 is a cytosolic enzyme with a very low CA activity. It is expressed at low levels in human muscle during early development but increases rapidly during the last trimester to reach 50-60% of adult levels at birth (2).

### References:

1. Hewett-Emmett, D. and R.E. Tashian (1996) Mol. Phylogenet. Evol. **5**:50.
2. Sly, W.S. and P.Y. Hu (1995) Annu. Rev. Biochem. **64**:375.