

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Carbonic Anhydrase VA/VB (CA5A/5B) in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human CA1, 4, or CA6-14 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 487908
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Carbonic Anhydrase VA/VB (CA5A/5B) Ala40-Ser305 Accession # P35218
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

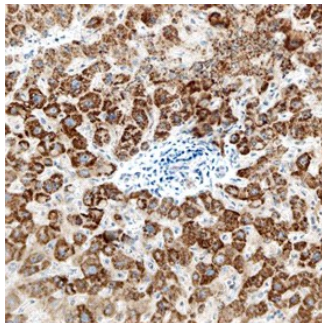
## APPLICATIONS

**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>	1 µg/mL	Recombinant Human Carbonic Anhydrase VA (Catalog # 3049-CA) Recombinant Human Carbonic Anhydrase VB (Catalog # 3176-CA)
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below
<b>Immunoprecipitation</b>	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Carbonic Anhydrase VB (Catalog # 3176-CA), <a href="#">see our available Western blot detection antibodies</a>

## DATA

### Immunohistochemistry



#### Carbonic Anhydrase VA/VB (CA5A/5B) in Human Liver.

Carbonic Anhydrase VA/VB (CA5A/5B) was detected in immersion fixed paraffin-embedded sections of human liver using Mouse Anti-Human Carbonic Anhydrase VA/VB (CA5A/5B) Monoclonal Antibody (Catalog # MAB5388) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to the cytoplasm of hepatocytes. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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 is a group of metalloproteases that catalyze the reversible reaction of CO<sub>2</sub> + H<sub>2</sub>O → HCO<sub>3</sub><sup>-</sup> + H<sup>+</sup>, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption. CA5A and CA5B are homologous proteins that are encoded by different genes locating in different chromosomes. However, they both are mitochondrial proteins and have low Carbonic Anhydrase activity. The amino acid sequence of human CA5A is 98%, 80% and 76% identical to that of chimpanzee, dog and mouse.