Human Carbonic Anhydrase III/CA3 Antibody

Monoclonal Mouse IgG_{2A} Clone # 495018

Catalog Number: MAB2185

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carbonic Anhydrase III/CA3 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human CA1, 2, 4, 5a, 5b, 6, 7, 8, or 9 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 495018
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human Carbonic Anhydrase III/CA3 Ala2-Lys260 Accession # P07451
Formulation	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.

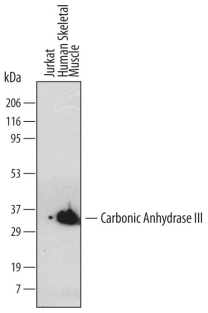
APPLICATIONS

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
Western Blot	2 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Cell lysates spiked with Recombinant Human Carbonic Anhydrase III (Catalog # 2185-CA), see our available Western blot detection antibodies

DATA

Western Blot



Detection of Human Carbonic Anhydrase III by Western Blot. Western blot shows lysates of human skeletal muscle tissue. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Carbonic Anhydrase III Monoclonal Antibody (Catalog # MAB2185) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Carbonic Anhydrase III at approximately 33 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Carbonic Anhydrase is a group of metalloproteases that catalyze the reversible reaction of CO2 + H2O = HCO3- + H+, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1). CA3 is an approximately 29 kDa 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). It is present at high levels in skeletal muscle and much lower levels in other tissues, such as cardiac and smooth muscle. The amino acid sequence of human CA3 is 99%, 90% and 92% identical to that of chimpanzee, dog and mouse/rat.

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.

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