Human Carbonic Anhydrase I/CA1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2180

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carbonic Anhydrase I/CA1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 5% cross-reactivity with recombinant human (rh) CA2, rhCA3, rhCA4, rhCA8, rhCA9, rhCA10, and rhCA12 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Carbonic Anhydrase I/CA1 Ala2-Phe261 Accession # P00915
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.

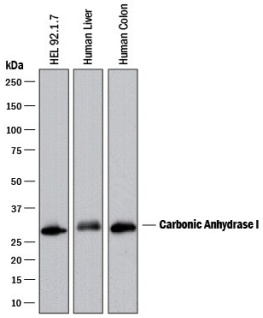
APPLICATIONS

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	0.1 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Carbonic Anhydrase I (Catalog # 2180-CA), see our available Western blot detection antibodies
Simple Western	5 µg/mL	See Below

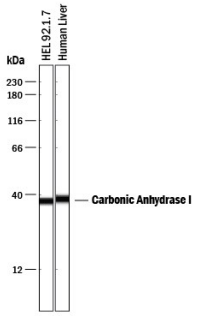
DATA

Western Blot



Detection of Human Carbonic Anhydrase I/CA1 by Western Blot. Western blot shows lysates of HEL 92.1.7 human erythroleukemic cell line, human liver tissue, and human colon tissue. PVDF membrane was probed with 0.1 µg/mL of Goat Anti-Human Carbonic Anhydrase I/CA1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2180) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Carbonic Anhydrase I/CA1 at approximately 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Simple Western



Detection of Human Carbonic Anhydrase I/CA1 by Simple Western™. Simple Western lane view shows lysates of HEL 92.1.7 human erythroleukemic cell line and human liver tissue, loaded at 0.2 mg/mL. A specific band was detected for Carbonic Anhydrase I/CA1 at approximately 38 kDa (as indicated) using 5 µg/mL of Goat Anti-Human Carbonic Anhydrase I/CA1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2180) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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 (CA) catalyzes the reversible reaction of $CO_2 + H_2O = HCO_3^- + H^+$, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1). Topics in a CA meeting (6th International Conference on the CAs, June 20-25, 2003, Slovakia) ranged from use of CAs as markers for tumor and hypoxia in clinic, as nutritional supplement in milk, and as a tool for CO_2 removal and mosquito control in industry. CA1 is a cytosolic enzyme with the highest levels in erythrocytes and is a very early marker for erythroid differentiation (2). The activity of CA1 can also be measured by its ability to catalyze the reaction $CO_2 + H_2O \rightarrow HCO_3^- + H^+$, using a published method (3).

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.
3. Wilbur, K.M. and N.G. Anderson (1948) J. Biol. Chem. **176**:147.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956