

## Human/Mouse Carbonic **Anhydrase VIII/CA8 Antibody**

Antigen Affinity-purified Polyclonal Goat IgG Catalog Number: AF2187

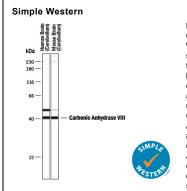
DESCRIPTION			
Species Reactivity	Human/Mouse		
Specificity	Detects human Carbonic Anhydrase VIII/CA8 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human (rh) CA2 and rhCA3 is observed and less than 1% cross-reactivity with rhCA1, rhCA4, and rhCA9 is observed.		
Source	Polyclonal Goat IgG		
Purification	Antigen Affinity-purified		
Immunogen	E. coli-derived recombinant human Carbonic Anhydrase VIII/CA8 Ala2-Gln290 Accession # P35219		
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 either lyophilized or as a 0.2 µm filtered solution in PBS.		

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	0.5 μg/mL	See Below
Immunoprecipitation	25 μg/mL	Conditioned cell culture medium spiked with Recombinant Human Carbonic Anhydrase VIII (Catalog # 2187-CA), see our available Western blot detection antibodies
Simple Western	5 μg/mL	See Below

# DATA Western Blot 20 -

**Detection of Human and Mouse** Carbonic Anhydrase VIII/CA8 by Western Blot. Western blot shows lysates of human brain (cerebellum) tissue and mouse brain (cerebellum) tissue. PVDF membrane was probed with 0.5 µg/mL of Goat Anti-Human/Mouse Carbonic Anhydrase VIII/CA8 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2187) followed by HRPconjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Carbonic Anhydrase VIII/CA8 at approximately 36 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1



**Detection of Human and Mouse** Carbonic Anhydrase VIII/CA8 by Simple Western<sup>TM</sup>. Simple Western lane view shows lysates of human brain (cerebellum) tissue and mouse brain (cerebellum) tissue, loaded at 0.2 mg/mL. Specific bands were detected for Carbonic Anhydrase VIII/CA8 at approximately 41 and 50 kDa (as indicated) using 5 µg/mL of Goat Anti-Human/Mouse Carbonic Anhydrase VIII/CA8 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2187) followed by 1:50 dilution of HRPconjugated 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<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 (1). Topics in a CA meeting (6th 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 CO2 removal and mosquito control in industry. CA8, also called CArelated protein (CARP), is a cytosolic protein without CA activity (i.e., the reversible hydration of CO<sub>2</sub>) due to point mutations in the zinc-binding site (2). Nevertheless, it has esterase activity described in the Activity Assay Protocol. CA8 is expressed exclusively in Purkinje cells of the cerebellum, where it binds inositol 1,4,5-triphosphate receptor type 1 (3). CA8 overexpression in human colorectal cancer and non-small cell lung cancer indicates that it plays a role in the process of invasion in these types of malignancy (4, 5).

#### References:

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