

DESCRIPTION

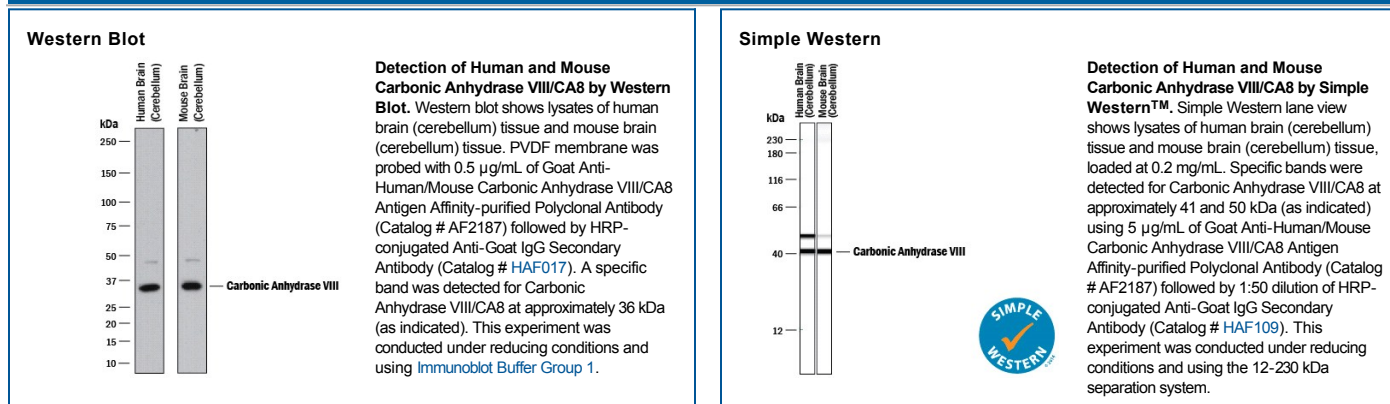
Species Reactivity	Human/Mouse
Specificity	Detects human Carbonic Anhydrase VIII/CA8 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human (rh) CA2 and rhCA3 is observed and less than 1% cross-reactivity with rhCA1, rhCA4, and rhCA9 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -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 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	0.5 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



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. <ul style="list-style-type: none"> • 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 $\text{CO}_2 + \text{H}_2\text{O} = \text{HCO}_3^- + \text{H}^+$, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1). Topics in a CA meeting (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 CO_2 removal and mosquito control in industry. CA8, also called CA-related protein (CARP), is a cytosolic protein without CA activity (i.e., the reversible hydration of CO_2) 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:

1. Hewett-Emmett, D. and R.E. Tashian (1996) *Mol. Phylogenet. Evol.* **5**:50.
2. Sjoblom, J. *et al.* (1996) *FEBS Lett.* **398**: 322.
3. Hirota, J. *et al.* (2003) *Biochem. J.* **372**: 435.
4. Miyaji, E. *et al.* (2003) *J. Pathol.* **201**: 37.
5. Lu, S.H. *et al.* (2004) *Lung Cancer* **44**: 273.