

CA VIII (H-100): sc-67330

BACKGROUND

Carbonic anhydrases (CAs) are members of a large family of zinc metalloenzymes responsible for catalyzing the reversible hydration of carbon dioxide. CAs show extensive diversity in their distribution and subcellular localization. They are involved in a variety of biological processes, including calcification, bone resorption, respiration, acid-base balance and the formation of aqueous humor, saliva, gastric juice and cerebrospinal fluid. CA VIII, also referred to as carbonic anhydrase-related protein VIII (CA-RP VIII), is a member of the carbonic anhydrase family that lacks the Zn-binding motif essential for carbonic anhydrase activity. For this reason, CA VIII does not exhibit catalytic activity. Instead it may be important in synaptic vesicle formation and transport. In addition, CA VIII may be involved in the invasiveness of non-small cell lung carcinomas and may also play a role in the growth of colon cancer cells.

REFERENCES

1. Bataller, L., et al. 2004. Carbonic anhydrase-related protein VIII: autoantigen in paraneoplastic cerebellar degeneration. *Ann. Neurol.* 56: 575-579.
2. Halmi, P., et al. 2005. Expression of carbonic anhydrases II, IV, VII, VIII and XII in rat brain after kainic acid induced status epilepticus. *Neurochem. Int.* 48: 24-30.
3. Jiao, Y., et al. 2005. Carbonic anhydrase-related protein VIII deficiency is associated with a distinctive lifelong gait disorder in waddles mice. *Genetics* 171: 1239-1246.
4. Morimoto, K., et al. 2005. Overexpression of carbonic anhydrase-related protein XI promotes proliferation and invasion of gastrointestinal stromal tumors. *Virchows Arch.* 447: 66-73.
5. Ishihara, T., et al. 2006. Carbonic anhydrase-related protein VIII increases invasiveness of non-small cell lung adenocarcinoma. *Virchows Arch.* 448: 830-837.
6. Supuran, C.T. 2007. Carbonic anhydrases as drug targets—an overview. *Curr. Top. Med. Chem.* 7: 825-833.
7. Supuran, C.T., et al. 2007. Carbonic anhydrases as targets for medicinal chemistry. *Bioorg. Med. Chem.* 15: 4336-4350.
8. Nishikata, M., et al. 2007. Carbonic anhydrase-related protein VIII promotes colon cancer cell growth. *Mol. Carcinog.* 46: 208-214.

CHROMOSOMAL LOCATION

Genetic locus: CA8 (human) mapping to 8q12.1; Car8 (mouse) mapping to 4 A1.

SOURCE

CA VIII (H-100) is a rabbit polyclonal antibody raised against amino acids 1-100 mapping at the N-terminus of CA VIII of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

CA VIII (H-100) is recommended for detection of CA VIII of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

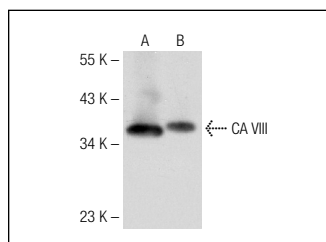
CA VIII (H-100) is also recommended for detection of CA VIII in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CA VIII siRNA (h): sc-62038, CA VIII siRNA (m): sc-62039, CA VIII shRNA Plasmid (h): sc-62038-SH, CA VIII shRNA Plasmid (m): sc-62039-SH, CA VIII shRNA (h) Lentiviral Particles: sc-62038-V and CA VIII shRNA (m) Lentiviral Particles: sc-62039-V.

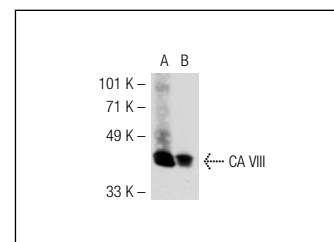
Molecular Weight of CA VIII: 33 kDa.

Positive Controls: Mouse brain extract: sc-2253, A549 cell lysate: sc-2413 or mouse cerebellum extract: sc-2403.

DATA



CA VIII (H-100): sc-67330. Western blot analysis of CA VIII expression in rat cerebellum (A) and mouse brain (B) tissue extracts.



CA VIII (H-100): sc-67330. Western blot analysis of CA VIII expression in mouse cerebellum (A) and mouse brain (B) tissue extracts.

SELECT PRODUCT CITATIONS

1. Puthussery, T., et al. 2011. Carbonic anhydrase-related protein VIII is expressed in rod bipolar cells and alters signaling at the rod bipolar to All-amacrine cell synapse in the mammalian retina. *Eur. J. Neurosci.* 34: 1419-1431.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **CA VIII (E-4): sc-166626** or **CA VIII (C-5): sc-271162**, our highly recommended monoclonal alternatives to CA VIII (H-100).