

CA VIII (C-17): sc-54706



The Power to Question

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., Sabater, L., Saiz, A., Serra, C., Claramonte, B. and Graus, F. 2004. Carbonic anhydrase-related protein VIII: autoantigen in paraneoplastic cerebellar degeneration. *Ann. Neurol.* 56: 575-579.
2. Halmi, P., Parkkila, S. and Honkaniemi, J. 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., Yan, J., Zhao, Y., Donahue, L.R., Beamer, W.G., Li, X., Roe, B.A., LeDoux, M.S. and Gu, W. 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., Nishimori, I., Takeuchi, T., Kohsaki, T., Okamoto, N., Taguchi, T., Yunoki, S., Watanabe, R., Ohtsuki, Y. and Onishi, S. 2005. Overexpression of carbonic anhydrase-related protein XI promotes proliferation and invasion of gastrointestinal stromal tumors. *Virchows Arch.* 447: 66-73.
5. Ishihara, T., Takeuchi, T., Nishimori, I., Adachi, Y., Minakuchi, T., Fujita, J., Sonobe, H., Ohtsuki, Y. and Onishi, S. 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. and Scozzafava, A. 2007. Carbonic anhydrases as targets for medicinal chemistry. *Bioorg. Med. Chem.* 15: 4336-4350.

CHROMOSOMAL LOCATION

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

SOURCE

CA VIII (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CA VIII of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-54706 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CA VIII (C-17) 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), 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 (C-17) is also recommended for detection of CA VIII in additional species, including equine, canine, bovine, porcine and avian.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **CA VIII (E-4): sc-166626** or **CA VIII (C-5): sc-271162**, our highly recommended monoclonal alternatives to CA VIII (C-17).