

# CA XI (H-50): sc-67333

## 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 XI, also referred to as carbonic anhydrase-related protein 11 precursor (CA-RP XI) or carbonic anhydrase-related protein 2 (CA-RP II), is a member of the carbonic anhydrase family that lacks two of the three Zn-binding motifs essential for carbonic anhydrase activity. For this reason, CA XI does not exhibit catalytic activity. It is expressed primarily in brain but is also found in spinal cord and thyroid. CA XI may play a role in brain development.

## REFERENCES

1. Smith, K.S., et al. 2000. Carbonic anhydrase is an ancient enzyme widespread in prokaryotes. *Proc. Natl. Acad. Sci. USA* 96: 15184-15189.
2. Okamoto, N., et al. 2001. cDNA sequence of human carbonic anhydrase-related protein, CA-RP X: mRNA expressions of CA-RP X and XI in human brain. *Biochim. Biophys. Acta* 1518: 311-316.
3. Supuran, C.T., et al. 2002. Carbonic anhydrase inhibitors. *Med. Res. Rev.* 23: 146-189.
4. Taniuchi, K., et al. 2003. cDNA cloning and developmental expression of murine carbonic anhydrase-related proteins VIII, X, and XI. *Brain Res. Mol. Brain Res.* 109: 207-215.
5. Supuran, C.T., et al. 2004. Designing of novel carbonic anhydrase inhibitors and activators. *Curr. Med. Chem. Cardiovasc. Hematol. Agents* 2: 49-68.
6. Pastorekova, S., et al. 2004. Carbonic anhydrases: current state of the art, therapeutic applications and future prospects. *J. Enzyme Inhib. Med. Chem.* 19: 199-229.
7. 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.
8. Supuran, C.T. and Scozzafava, A. 2007. Carbonic anhydrases as targets for medicinal chemistry. *Bioorg. Med. Chem.* 15: 4336-4350.

## CHROMOSOMAL LOCATION

Genetic locus: CA11 (human) mapping to 19q13.33; Car11 (mouse) mapping to 7 B4.

## SOURCE

CA XI (H-50) is a rabbit polyclonal antibody raised against amino acids 279-328 mapping at the C-terminus of CA XI 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.

## APPLICATIONS

CA XI (H-50) is recommended for detection of CA XI 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 XI (H-50) is also recommended for detection of CA XI in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for CA XI siRNA (h): sc-62042, CA XI siRNA (m): sc-62043, CA XI shRNA Plasmid (h): sc-62042-SH, CA XI shRNA Plasmid (m): sc-62043-SH, CA XI shRNA (h) Lentiviral Particles: sc-62042-V and CA XI shRNA (m) Lentiviral Particles: sc-62043-V.

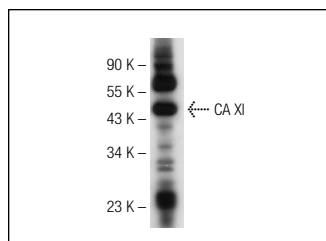
Molecular Weight of CA XI: 36 kDa.

Positive Controls: mouse brain extract: sc-2253.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



CA XI (H-50): sc-67333. Western blot analysis of CA XI expression in mouse brain tissue extract.

## STORAGE

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

## RESEARCH USE

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