

CA X (m): 293T Lysate: sc-125088

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 X, also referred to as carbonic anhydrase-related protein X (CA-RP X) or cerebral protein 15, 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 X does not exhibit catalytic activity. It is expressed primarily in brain and kidney and may play a role in brain development.

REFERENCES

1. Lovejoy, D.A., Hewett-Emmett, D., Porter, C.A., Cepoi, D., Sheffield, A., Vale, W.W. and Tashian, R.E. 1999. Evolutionarily conserved, "acatalytic" carbonic anhydrase-related protein XI contains a sequence motif present in the neuropeptide sauvagine: the human CA-RP XI gene (CA11) is embedded between the secretor gene cluster and the DBP gene at 19q13.3. *Genomics* 54: 484-493.
2. Okamoto, N., Fujikawa-Adachi, K., Nishimori, I., Taniuchi, K. and Onishi, S. 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. Taniuchi, K., Nishimori, I., Takeuchi, T., Fujikawa-Adachi, K., Ohtsuki, Y. and Onishi, S. 2002. Developmental expression of carbonic anhydrase-related proteins VIII, X, and XI in the human brain. *Neuroscience* 112: 93-99.
4. Taniuchi, K., Nishimori, I., Takeuchi, T., Ohtsuki, Y. and Onishi, S. 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. Gulcin, I., Beydemir, S. and Buyukokuroglu, M.E. 2004. *In vitro* and *in vivo* effects of dantrolene on carbonic anhydrase enzyme activities. *Biol. Pharm. Bull.* 27: 613-616.
6. Pastorekova, S., Parkkila, S., Pastorek, J. and Supuran, C.T. 2004. Carbonic anhydrases: current state of the art, therapeutic applications and future prospects. *J. Enzyme Inhib. Med. Chem.* 19: 199-229.

CHROMOSOMAL LOCATION

Genetic locus: Car10 (mouse) mapping to 11 D.

PRODUCT

CA X (m): 293T Lysate represents a lysate of mouse CA X transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

CA X (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CA X antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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