

Mouse Anti-Human Carbonic Anhydrase XII Monoclonal Antibody

Cat. No. CAB11484MH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Mouse monoclonal antibody to human carbonic anhydrase XII.
Species	Human
Source	Mouse
Antigen Description	Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes first discovered in 1933 that catalyze the reversible hydration of carbon dioxide. CAs participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva, and gastric acid. CA12, also known as Car12 and carbonic anhydrase XII, is a type I membrane enzyme highly expressed in colon, kidney, prostate, intestine and activated lymphocytes and moderately expressed in pancreas, ovary, and testis. This bitopic membrane protein contains an N-terminal extracellular catalytic domain, a membrane-spanning α-helix, and a small intracellular C-terminal domain. Two alternatively spliced forms exist, which either contains or lacks a 11 amino acid segment just before the transmembrane domain. The structure reveals a prototypical CA fold and two CA XII domains associate to form an isologous dimer. Overexpression of the CA12 is observed in certain human cancers and is used as a tumor marker.
Specificity	Human Carbonic Anhydrase XII / CA12. No cross-reactivity in ELISA with Mouse Carbonic Anhydrase XII / CA12, Human Carbonic Anhydrase II / CA2, Human

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

	Carbonic Anhydrase III / CA3, Human Carbonic Anhydrase IV / CA4, Human Carbonic Anhydrase VA / CA5A, Human Carbonic Anhydrase VB / CA5B, Human Carbonic Anhydrase VIII / CA8, Human Carbonic Anhydrase X / CA10, Human Carbonic Anhydrase XIII / CA13, Human Carbonic Anhydrase XIV / CA14, Human Carbonic Anhydrase IX / CA9, Human cell lysate (293 cell line).
Immunogen	Recombinant Human Carbonic Anhydrase XII / CA12 Protein
Isotype	Mouse IgG1
Clone	3E7F2
Purification	Protein A affinity chromatography
Applications	Western Blot; ELISA
Dilution	Western blot: This antibody can be used at 1 - 2 µg/mL with the appropriate secondary reagents to detect CA12 in WB. Using a DAB detection system, the detection limit for CA12 is approximately 8 ng/lane under non-reducing conditions and reducing conditions. Direct ELISA: This antibody can be used at 0.5 - 1 µg/mL with the appropriate secondary reagents to detect CA12-His. The detection limit for CA12-His is approximately 0.0195 ng/well.
Preparation	This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, human cell-derived, recombinant Human Carbonic Anhydrase XII / CA12. The IgG fraction of the cell culture supernatant was purified by Protein A affinity chromatography.
Format	0.2 µm filtered solution in PBS with 5% trehalose

Storage

This antibody can be stored at 2-8 °C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20 °C to -70 °C. Preservative-Free. Sodium azide is recommended to avoid contamination (final concentration 0.05%-0.1%). It is toxic to cells and should be disposed of properly. Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name [CA12 carbonic anhydrase XII \[Homo sapiens \]](#)

Official Symbol CA12

Synonyms CA12; carbonic anhydrase XII; carbonic anhydrase 12; HsT18816; CA-XII; carbonic dehydratase; carbonate dehydratase XII; tumor antigen HOM-RCC-3.1.3; CAXII; FLJ20151;

Gene ID [771](#)

mRNA Refseq [NM_001218](#)

Protein Refseq [NP_001209](#)

MIM [603263](#)

UniProt ID [O43570](#)

Chromosome Location 15q22

Function carbonate dehydratase activity; lyase activity; metal ion binding; zinc ion binding;

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA