10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CA9 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1846a

Product Information

Application	WB, FC, E
Primary Accession	Q16790
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	10F7A8
Isotype	IgG1
Calculated MW	49698
Description	Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They 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. They show extensive diversity in tissue distribution and in their subcellular localization. CA IX is a transmembrane protein and the only tumor-associated carbonic anhydrase isoenzyme known. It is expressed in all clear-cell renal cell carcinoma, but is not detected in normal kidney or most other normal tissues. It may be involved in cell proliferation and transformation. This gene was mapped to 17q21.2 by fluorescence in situ hybridization, however, radiation hybrid mapping localized it to 9p13-p12.
Immunogen	Purified recombinant fragment of human CA9 (AA: 37-186) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	768
Other Names	Carbonic anhydrase 9, 4.2.1.1, Carbonate dehydratase IX, Carbonic anhydrase IX, CA-IX, CAIX, Membrane antigen MN, P54/58N, Renal cell carcinoma-associated antigen G250, RCC-associated antigen G250, pMW1, CA9, G250, MN
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CA9 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CA9
Synonyms	G250, MN
Function	Catalyzes the interconversion between carbon dioxide and water and the dissociated ions of carbonic acid (i.e. bicarbonate and hydrogen ions).
Cellular Location	Nucleus. Nucleus, nucleolus. Cell membrane; Single-pass type I membrane protein. Cell projection, microvillus membrane; Single-pass type I membrane protein. Note=Found on the surface microvilli and in the nucleus, particularly in nucleolus
Tissue Location	Expressed primarily in carcinoma cells lines. Expression is restricted to very few normal tissues and the most abundant expression is found in the epithelial cells of gastric mucosa

Background

Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They 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. They show extensive diversity in tissue distribution and in their subcellular localization. CA IX is a transmembrane protein and the only tumor-associated carbonic anhydrase isoenzyme known. It is expressed in all clear-cell renal cell carcinoma, but is not detected in normal kidney or most other normal tissues. It may be involved in cell proliferation and transformation. This gene was mapped to 17q21.2 by fluorescence in situ hybridization, however, radiation hybrid mapping localized it to 9p13-p12. ;

References

1. Breast Cancer Res Treat. 2012 Nov;136(1):67-75. 2. Histol Histopathol. 2011 Oct;26(10):1279-86.

Images

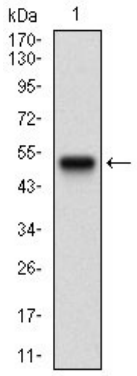


Figure 1: Western blot analysis using CA9 mAb against human CA9 recombinant protein. (Expected MW is 42 kDa)

Figure 2: Western blot analysis using CA9 mAb against HEK293 (1) and CA9 (AA: 37-186)-hIgGFc transfected HEK293 (2) cell lysate.

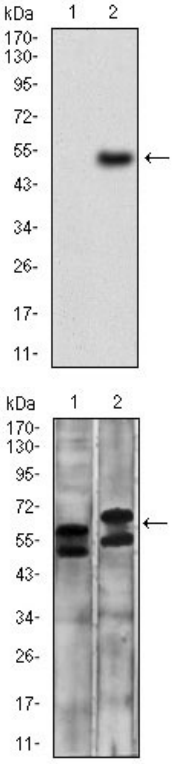


Figure 3: Western blot analysis using CA9 mouse mAb against A431 (1) and SW620 (2) cell lysate.

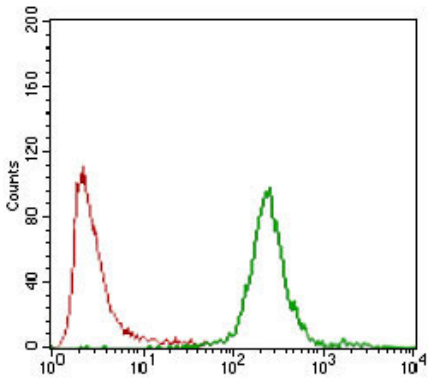


Figure 4: Flow cytometric analysis of NTERA-2 cells using CA9 mouse mAb (green) and negative control (red).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.