

PRODUCT INFORMATION

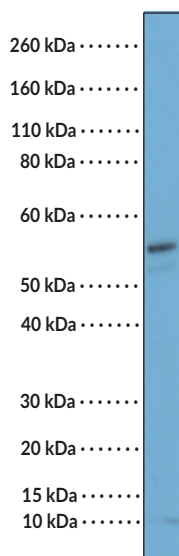
CAIX Rabbit Monoclonal Antibody (Clone RM486)

Item No. 42842

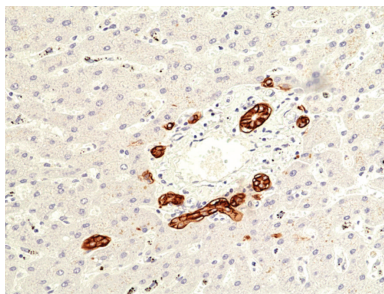
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	CA9, Carbonate Dehydratase IX, Carbonic Anhydrase 9, Carbonic Anhydrase IX
Immunogen:	Peptide corresponding to the C-terminus of human CAIX
Cross Reactivity:	(+) CD68
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM486
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:100 - 1:200 and 1:1,000 - 1:2,500 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

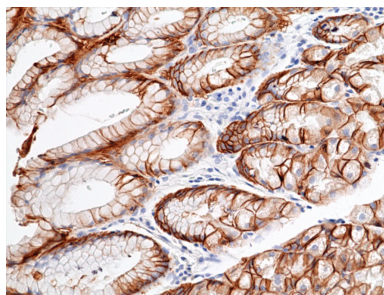
Images



WB of SW620 cell lysates using CAIX Rabbit Monoclonal Antibody (Clone RM486) at a dilution of 1:2,500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human liver tissue sections using CAIX Rabbit Monoclonal Antibody (Clone RM486) at a dilution of 1:100.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human stomach tissue sections using CAIX Rabbit Monoclonal Antibody (Clone RM486) at a dilution of 1:100.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Carbonic anhydrase IX (CAIX) is a transmembrane carbonic anhydrase and a member of the carbonic anhydrase family.^{1,2} It is composed of an N-terminal proteoglycan-like domain, a catalytic domain, a transmembrane region, and a C-terminal cytosolic tail.³ CAIX is expressed in the epithelia of the gastrointestinal tract where it catalyzes the reversible zinc-dependent hydrolysis of carbon dioxide (CO₂) and maintains intracellular pH homeostasis.^{1,2} The levels of CAIX are increased in chronically hypoxic tumors, which contributes to the acidification of the extracellular matrix (ECM) by decreasing elevated intracellular CO₂ levels produced from increased metabolism.² CAIX inhibition decreases metastasis and increases hypoxic stress in mouse breast cancer xenograft models.⁴ High tumor levels of CAIX are correlated with distant metastasis and poor survival in patients with breast cancer.⁵ Cayman's CAIX Rabbit Monoclonal Antibody (Clone RM486) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Supuran, C.T. and Scozzafava, A. Carbonic anhydrases as targets for medicinal chemistry. *Bioorg. Med. Chem.* **15**(13), 4336-4350 (2007).
2. Becker, H.M. Carbonic anhydrase IX and acid transport in cancer. *Br. J. Cancer.* **122**(2), 157-167 (2020).
3. Vullo, D., Franchi, M., Gallori, E., *et al.* Carbonic anhydrase inhibitors: Inhibition of the tumor-associated isozyme IX with aromatic and heterocyclic sulfonamides. *Bioorg. Med. Chem. Lett.* **13**(6), 1005-1009 (2003).
4. Gieling, R.G., Babur, M., Mamnani, L., *et al.* Antimetastatic effect of sulfamate carbonic anhydrase IX inhibitors in breast carcinoma xenografts. *J. Med. Chem.* **55**(11), 5591-5600 (2012).
5. Lou, Y., McDonald, P.C., Oloumi, A., *et al.* Targeting tumor hypoxia: suppression of breast tumor growth and metastasis by novel carbonic anhydrase IX inhibitors. *Cancer Res.* **71**(9), 3364-3376 (2011).

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