

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carbonic Anhydrase IV/CA4 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human CA1, -2, -3, -5a, -5b, -7, 8, -9, or -10 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 310415
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Carbonic Anhydrase IV/CA4 Ala19-Lys283 Accession # P22748
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Carbonic Anhydrase (CA) catalyzes the reversible reaction of $\text{CO}_2 + \text{H}_2\text{O} = \text{HCO}_3^- + \text{H}^+$, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1). Topics in a CA meeting (6th International Conference on the CAs, June 20-25, 2003, Slovakia) ranged from the use of CAs as markers for tumor and hypoxia in the clinic, as a nutritional supplement in milk, and as a tool for CO_2 removal and mosquito control in industry. CA4 is a GPI-anchored membrane enzyme expressed on the luminal surfaces of pulmonary (and certain other) capillaries and of proximal renal tubules. It functions as the principal CO_2 taste sensor (2). In addition, a genetic mutation (Arg 14 to Trp in the signal peptide) of CA4 was found to co-segregate with the RP17 form of retinitis pigmentosa in two large families and was not found in 36 unaffected family members or 100 controls (3).

PRODUCT SPECIFIC NOTICES

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