

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carbonic Anhydrase VI in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human Carbonic Anhydrase 1, 2, 3, 4, 5A, 5B, 7, 8, or 9 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 401809
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Carbonic Anhydrase VI Gln18-Asn308 Accession # EAW71606
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	0.25-1 µg/10 ⁶ cells	OVCAR-3 human ovarian carcinoma cell line fixed with paraformaldehyde and permeabilized with saponin

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 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 CO₂ removal and mosquito control in industry. Carbonic Anhydrase VI, also known as gustin and salivary Carbonic Anhydrase, is a zinc-metalloprotein that constitutes about 3% of human parotid saliva protein (2, 3). It was decreased in patients with loss of taste and pathological changes in taste buds (4). It is also an elementary component of milk. It plays an important role in normal growth and development of the infant alimentary tract (5).

References:

1. Hewett-Emmett, D. and R.E. Tashian (1996) *Mol. Phylogenet. Evol.* **5**:50.
2. Murakami, H. and Sly, W. S. (1987) *J. Biol. Chem.* **262**:1382.
3. Thatcher, B. J. *et al.* (1998) *Biochem. Biophys. Res. Commun.* **250**:635.
4. Hankin, R. I. *et al.* (1999) *Am. J. Med. Sci.* **318**:380.
5. Karhumaa, P. *et al.* (2001) *Proc. Natl. Acad. Sci. USA.* **98**:11604.

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