

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                             |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Carbonic Anhydrase XII/CA12 in direct ELISAs and Western blots. In Western blots, approximately 40% cross-reactivity with recombinant mouse Carbonic Anhydrase XII/CA12 is observed and less than 5% cross-reactivity with other CA isoforms. |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Carbonic Anhydrase XII/CA12<br>Ala25-Gln291<br>Accession # O43570                                                                                                                                     |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                             |
| <b>Formulation</b>        | 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 (6<sup>th</sup> 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  $\text{CO}_2$  removal and mosquito control in industry. CA12 is a type I membrane enzyme highly expressed in colon, kidney, prostate, intestine and activated lymphocytes and moderately expressed in pancreas, ovary, and testis (2, 3). It is over-expressed in some renal cell cancers and in glaucoma (2, 4). Two alternatively spliced forms exist, which either contains or lacks a 11 amino acid segment just before the transmembrane domain (5). The secreted, purified recombinant human CA12 contains the residues that are common for both forms.

#### PRODUCT SPECIFIC NOTICES

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