

## CA2

**Reactivity:** Human Mouse Rat

**Tested applications:** WB IHC IF

**Recommended Dilution:** WB 1:500 - 1:2000 IHC 1:50 - 1:200 IF 1:10 - 1:100

**Calculated MW:** 29kDa

**Observed MW:** Refer to Figures

**Immunogen:**

Recombinant protein of human CA2

**Storage Buffer:**

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

**Synonym:**

CAC; CAII; Car2; CA-II;

**Catalog #:** A1440

**Antibody Type:**

Polyclonal Antibody

**Species:** Rabbit

**Gene ID:** 760

**Isotype:** IgG

**Swiss Prot:** P00918

**Purity:** Affinity purification

For research use only.

**Background:**

Carbonic anhydrases (CA) are a family of ancient zinc metalloenzymes found in almost all living organisms. All CA can be divided into 3 distinct classes ( , , and ) that evolved independently and have no significant homology in sequence and overall folding. All functional CA catalyze the reversible hydration of CO<sub>2</sub> into HCO<sub>3</sub><sup>-</sup> and H<sup>+</sup> and contain a zinc atom in the active sites essential for catalysis. There are many isoforms of CA in mammals and they all belong to the class (1,2). CA2 is a cytosolic member of the class. It is the most widely distributed isoform among the mammalian CAs (1). Defects in CA2 are associated with osteopetrosis and renal tubular acidosis (3-5). Elevated expression of CA2 is observed in patients with Alzheimers disease and the developing brains of Down syndrome patients (6,7). CA2 is also overexpressed in Gastrointestinal Stromal Tumors (GISTs) and is considered a useful marker for diagnosis (8). Recently, CA2 was reported to facilitate transporter activity of the monocarboxylate transporter isoform 1 and 4 (MCT1/4) independent of its own catalytic activity (9,10)

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