Human Carbonic Anhydrase IX/CA9 Antibody

Monoclonal Mouse IgG_{2A} Clone # 303123

Catalog Number: MAB2188

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carbonic Anhydrase IX (CA9) in direct ELISAs. In direct ELISAs, this antibody does not cross-react with recombinant mouse (rm) CA9 or with rhCA1, 2, 3, 4, 5A, 6, 7, 8, 10, 12, 13, or 14.
Source	Monoclonal Mouse IgG_{2A} Clone # 303123
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Carbonic Anhydrase IX Pro59-Asp414 Accession # Q16790
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

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
Flow Cytometry	2.5 µg/10^6 cells	HeLa human cervical epithelial carcinoma cell line
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Carbonic Anhydrase IX (Catalog # 2188-CA), see our available Western blot detection antibodies
Human Carbonic Anhydrase IX Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Human Carbonic Anhydrase IX/CA9 Antibody (Catalog # MAB2188)
ELISA Detection	0.1-0.4 µg/mL	Human Carbonic Anhydrase IX/CA9 Biotinylated Antibody (Catalog # BAF2188)
Standard		Recombinant Human Carbonic Anhydrase IX/CA9 (Catalog # 2188-CA)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Carbonic Anhydrase (CA) catalyzes the reversible reaction of $CO_2 + H_2O = HCO_3^- + H^+$, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1-3). Topics in the CA meeting (6^{th} International Conference on the CAs, June 20-25, 2003; Slovakia) ranged from use of CAs as markers for tumor and hypoxia in clinic, as nutritional supplement in milk, and as a tool for CO_2 removal and mosquito control in industry. CA9, also known as membrane antigen MN and renal cell carcinoma (RCC)-associated antigen G250, is a transmembrane enzyme expressed primarily in carcinoma cells. It is one of the best markers for hypoxia and for RCC (4, 5). rhCA9 corresponds to the extracellular portion of human CA9.

References:

1. Pastorek, J. *et al.* (1994) Oncogene **9**:2877.
2. Opavsky, R. *et al.* (1996) Genomics **33**:480.
3. Hewett-Emmett, D. and R.E. Tashian (1996) Mol. Phylogenet. Evol. **5**:50.
4. Kaluzova, M. *et al.* (2004) Mol. Cell Biol. **24**:5757.
5. Mukouyama, H. *et al.* (2004) Clin. Cancer Res. **10**:1421.