CA III (F-10): sc-373729

**BACKGROUND**

Carbonic anhydrases (CAs) are members of a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. CAs are involved in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption and the formation of aqueous humor, cerebrospinal fluid, saliva and gastric juice. They show extensive diversity in distribution and in their subcellular localization. CA III (carbonic anhydrase III), also known as Car3 or CA3, is a 260 amino acid cytoplasmic protein that is specifically expressed in muscle. Belonging to the α-carbonic anhydrase family, CA III is activated by proton donors such as imidazole and dipeptide histidylhistidine, and is inhibited by coumarins and sulfonamide derivatives such as acetazolamide.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: CA3 (human) mapping to 8q21.2; Car3 (mouse) mapping to 8q21.23.

**SOURCE**

CA III (F-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 27-55 near the N-terminus of CA III of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CA III (F-10) is available conjugated to agarose (sc-373729 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373729 HRP), 200 µg/ml, for WB, (HCP) and ELISA; to either phycoerythrin (sc-373729 PE), fluorescein (sc-373729 FITC), Alexa Fluor® 488 (sc-373729 AF488), Alexa Fluor® 546 (sc-373729 AF546), Alexa Fluor® 594 (sc-373729 AF594) or Alexa Fluor® 647 (sc-373729 AF647), 200 µg/ml, for WB (RGB), IF, IHC(I) and FCM; and to either Alexa Fluor® 680 (sc-373729 AF680) or Alexa Fluor® 790 (sc-373729 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373729 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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**APPLICATIONS**

CA III (F-10) is recommended for detection of CA III of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CA III siRNA (h): sc-60309, CA III siRNA (m): sc-60310, CA III shRNA Plasmid (h): sc-60309-SH, CA III shRNA Plasmid (m): sc-60310-SH, CA III shRNA (h) Lentiviral Particles: sc-60309-V and CA III shRNA (m) Lentiviral Particles: sc-60310-V.

Molecular Weight of CA III: 28 kDa.

Positive Controls: CA III (h): 293T Lysate: sc-158315, Sol8 cell lysate: sc-2249 or C2C12 whole cell lysate: sc-364188.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG BP-FITC: sc-516140 or m-IgG BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistoamount: sc-45086, or Organo/Limonene Mount: sc-45087.

**DATA**

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

For research use only, not for use in diagnostic procedures.