**SERCA2 (IID8): sc-53010**

**BACKGROUND**

ATP dependent calcium pumps are responsible, in part, for the maintenance of low cytoplasmic free calcium concentrations. The ATP pumps that reside in intracellular organelles are encoded by a family of structurally related enzymes, termed the sarcoplasmic or endoplasmic reticulum calcium (SERCA) ATPases. The sarcoplasmic reticulum of striated muscle is a specialized intracellular membrane system that plays a critical role in the contraction and relaxation of muscle. The SERCAs mediate Ca\(^{2+}\) uptake into intracellular stores. SERCA-mediated Ca\(^{2+}\) uptake induces and maintains muscular relaxation. The SERCA1 gene is exclusively expressed in type II (fast) skeletal muscle. The SERCA2 gene is subject to tissue-specific processing which is responsible for the generation of the SERCA2a muscle-specific form expressed in type I (slow) skeletal, cardiac and smooth muscle, and the SERCA2b isoform expressed in all cell types. The SERCA3 gene is not as well characterized and is found in non-muscle cells. SERCA2 plays an important part in regulating cardiac contractile function. SERCA3 is an isoform expressed in several cell types including platelets, lymphoid cells and mast cells. SERCA1, SERCA2 and SERCA3 all undergo alternative splicing.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: ATP2A2 (human) mapping to 12q24.11; Atp2a2 (mouse) mapping to 5 F.

**SOURCE**

SERCA2 (IID8) is a mouse monoclonal antibody raised against purified cardiac sarcoplasmic reticulum of canine origin.

**PRODUCT**

Each vial contains 200 µg IgG\(_1\) kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

SERCA2 (IID8) is available conjugated to agarose (sc-53010 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53010 HRP), 200 µg/ml, for WB, (HJC)P and ELISA; to either phycoerythrin (sc-53010 PE), fluorescein (sc-53010 FITC), Alexa Fluor® 488, Alexa Fluor® 546 (sc-53010 AF546), Alexa Fluor® 594 (sc-53010 AF594) or Alexa Fluor® 647 (sc-53010 AF647), 200 µg/ml, for WB (RGB), IF, (HJC)P and FCM; and to either Alexa Fluor® 680 (sc-53010 AF680) or Alexa Fluor® 790 (sc-53010 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**STORAGE**

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