

Product Information

Monoclonal Anti-SERCA3, Clone PL/IM430

produced in mouse, purified immunoglobulin

Product Number **S7199**

Product Description

Monoclonal Anti-SERCA3 (mouse IgG1 isotype) is derived from the hybridoma PL/IM430 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified human platelet intracellular membrane.¹ The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Monoclonal Anti-SERCA3 recognizes human SERCA3. The antibody may be used in various immunochemical techniques including ELISA, immunocytochemistry, immunoblotting (~100 kDa), immunoprecipitation, and immunohistochemistry.^{1,2}

Ca²⁺, the main second messenger, is central to the regulation of cellular growth, proliferation, and activation. These processes are supported by continuous store-operated Ca²⁺ influx from intracellular storage sites in the endoplasmic reticulum (ER) or the sarcoplasmic reticulum (SR), or by entry across the plasma membrane, and a subsequent decrease as Ca²⁺ is removed from the cytosol.³

Sarco/endoplasmic calcium ATPase pumps (SERCA) play a pivotal role in intracellular [Ca²⁺] homeostasis by lowering the cytoplasmic [Ca²⁺] concentration and replenishing the ER/SR stores following release.⁴ SERCAs are encoded by three genes (human nomenclature *ATP2A1-3*) resulting in various isoforms of SERCA1, SERCA2, and SERCA3 through alternative splicing. The human SERCA3 gene gives rise to six 3'-end splice variants encoding proteins varying in their C-terminal part and termed SERCA3a-f.⁵ The different SERCA3 mRNAs are differentially co-expressed in a variety of cells and tissues, and have distinct physiological roles in cell function.⁶⁻⁷ SERCA3 deficient mice are viable and present reduced rate of endothelium-dependent relaxation of aortic smooth muscle, as well as correlation to glucose response in pancreatic β -cells.⁸⁻⁹ Additionally, SERCA3 expression is reduced or lost in gastric/colon carcinoma and leukemia cell types.¹⁰⁻¹¹

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze at –20 °C in working aliquots. Repeated freezing and thawing, or storage in “frost-free” freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 0.25-0.5 μ g/mL is recommended using platelet total cell extract.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

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VS,GG,TD,KAA,PHC,MAM 03/19-1