

Product Information

Monoclonal Anti-SERCA2 ATPase, clone IID8 produced in mouse

Catalog Number **S1439**

Product Description

Monoclonal Anti-SERCA2 ATPase is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a BALB/c mouse immunized with purified dog cardiac sarcoplasmic reticulum.¹

Monoclonal Anti-SERCA2 ATPase recognizes the SERCA2 ATPase (110 kDa) and does not discriminate between the two isoforms. Specifically, it has shown cross-reactivity with SERCA2 in type I (slow) skeletal muscle (human, dog, rabbit, rat, and pig), cardiac muscle (human, dog, rabbit, and rat) and stomach smooth muscle (rabbit and porcine liver). The antibody may be used in immunoblotting, immunohistochemistry, immunocytochemistry, and immunofluorescence applications. It should be noted, however, that this antibody is not suitable for immunoblotting rat tissue. See Catalog number S1314 for this application/species. Monoclonal Anti-SERCA2 ATPase has also been shown to recognize SERCA2b ATPase in the cerebrum and cerebellum of rat and pig.

ATP dependent calcium pumps are responsible in part for the maintenance of low cytoplasmic free Ca^{2+} concentrations.² The ATP pumps that reside in intracellular organelles are encoded by a family of genes that produce structurally related enzymes termed the sarcoplasmic or endoplasmic reticulum Ca^{2+} (SERCA) ATPases.^{3,4} The SERCA1 gene is exclusively expressed in type II (fast) skeletal muscle. The SERCA2 gene is subject to tissue dependent processing resulting in the generation of the SERCA2a muscle-specific isoform expressed in type I (slow) skeletal, cardiac and smooth muscle and the SERCA2b isoform expressed in all other cell types. SERCA3 is co-expressed with SERCA2b in platelets, mast cells, lymphoid cells, and epithelial cells.

Reagent

Supplied as a solution in PBS-containing 0.05% sodium azide as preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at $-20\text{ }^{\circ}\text{C}$. For extended storage, freeze 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Western Blott: a working dilution of 1:500 - 1:5:000 is recommended.

Immunohistochemistry: a working dilution of 1:500 is recommended using frozen sections.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Jorgenson, A.O., et al., *Cell Mot. and Cytoskel.*, **9**, 164-174 (1988).
2. MacLennan, D.H., *Eur. J. Biochem.*, **267**, 5291-5297 (2000).
3. East, J.M., *Mol. Membr. Biol.*, **17**, 189-200 (2000).
4. Shull, G.E., *Eur. J. Biochem.*, **267**, 5284-5290 (2000).

RC,PHC 08/14-1