

Product Information

Monoclonal Anti-Na⁺/Ca²⁺ Exchanger

Clone C2C12, antibody produced in mouse

Catalog Number **N216**

Product Description

Monoclonal Anti-Na⁺/Ca²⁺ Exchanger (IgM isotype) is produced in mice. Purified canine cardiac Na⁺/Ca²⁺ exchanger was used as immunogen. The epitope for this antibody is in the region of amino acids 371-525, which is on the intracellular side of the plasma membrane.

Monoclonal Anti-Na⁺/Ca²⁺ Exchanger reacts specifically with Na⁺/Ca⁺ exchanger in kidney and cardiac tissues of human, dog, rabbit, guinea pig, and rat. The antibody may be used to localize and detect Na⁺/Ca⁺ exchanger (120 kDa) by immunoblotting, immunoprecipitation, and immunohistochemistry. By immunoblotting, the antibody detects a band at 120 kDa, representing the mature exchanger. The bands seen at 70 kDa and 160 kDa represent a proteolytic fragment and non-reduced exchanger, respectively. It is not recommended for immunoblotting of rat tissues. By immunohistology, staining of the plasma membrane and intense staining of cardiac T-tubular membrane is observed.

The Na⁺/Ca²⁺ exchanger of cardiac sarcolemma rapidly transports Ca²⁺ during excitation-contraction coupling and is the dominant myocardial Ca²⁺ efflux mechanism. The Na⁺/Ca²⁺ exchanger uses the transmembrane Na⁺ gradient to catalyze countertransport of Ca²⁺ against its electrochemical gradient in a 3 Na⁺ : 1 Ca²⁺ exchange. Na⁺/Ca²⁺ exchange activity is present in excitable cells and in nonexcitable cells.

Reagents

Monoclonal Anti-Na⁺/Ca²⁺ Exchanger is supplied as a solution in phosphate buffered saline and contains 0.05% sodium azide.

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 -20 °C for up to one month. For extended storage, solution may be frozen in working aliquots. Storage in "frost-free" freezers is not recommended. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Product Profile

Recommended working dilution is 1:1,000 for immunoblotting and 1:200 for immunofluorescence. However, optimal working concentration should be determined by serial dilutions. Dilutions for immunoprecipitation are dependent on the assay conducted and should be determined by serial dilutions.

References

1. Frank, J.S., et al., J. Cell Biol., **117**, 337-345 (1992).
2. Porzig, H., et al., Am. J. Physiol., **265**, C748-C756 (1993).
3. Reilly, R.F., et al., Am. J. Physiol., **265**, F327-F332 (1993).
4. Li, Z. et al., J. Biol. Chem., **267**, 7828-7833 (1992).
5. Li, Z. et al., J. Biol. Chem., **268**, 11489-11491 (1993).

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