Monoclonal Anti-Sodium/Calcium Exchanger 1
Certificate of Analysis

ORDERING INFORMATION

Catalog Number: PPS019

Clone: 6H2

Lot Number: 1279214

Size: 100 μg (sufficient for 10 mini-blots)

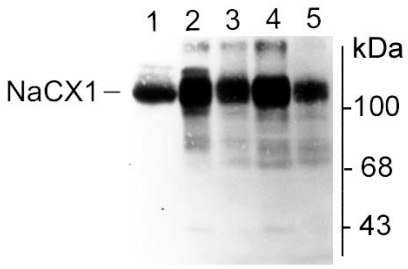
Storage: ≤ -20° C

Specificity: ~120 kDa and ~160 kDa Na^+/Ca^{2+} Exchanger 1 protein

Immunogen: Fusion protein from the N-terminus of rabbit renal Na^+/Ca^{2+} Exchanger 1

Ig Type: mouse IgG_{2B}

Applications: Western blot



Western blot of various rat tissues showing immunolabeling of the ~120 kDa and ~160 kDa NaCX-1 protein.

Lane 1 - Brain
Lane 2 - Heart
Lane 3 - Kidney
Lane 4 - Lung
Lane 5 - Spleen

Description
Ca^{2+} plays a critical role in intracellular signaling. The regulation of calcium balance is critical for the maintenance of this signaling function. The plasma membrane Na^+/Ca^{2+} (NaCX) exchangers mediate Na^+-dependent Ca^{2+} efflux in a wide variety of cell types. NaCX can move Ca^{2+} either into or out of cells, depending on the net Na^+, Ca^{2+}, and K^+ gradient across the membrane. In mammals, at least 5 distinct genes code for the exchangers: three NaCX (NaCX-1, NaCX-2, and NaCX-3), and two NaCKX (NaCKX-1 and NaCKX-2). NaCX-1 is most prominently expressed in the heart where it plays a major role in excitation-contraction coupling. NACX-1 may also play a role in protecting the heart and brain from ischemia and reperfusion injury.

Preparation
Prepared by affinity purification using a Protein G column.

Formulation
100 μg antibody per vial; lyophilized in 5 mM ammonium bicarbonate.

Reconstitution
This antibody should be reconstituted in 50 μL phosphate buffered saline (137 mM NaCl, 7.5 mM Na_2HPO_4, 2.7 mM KCl, 1.5 mM KH_2PO_4, pH 7.4) before use.

Storage
The lyophilized product is stable at ≤- 20° C for at least 1 year. After reconstitution the antibody should be aliquoted and stored at ≤ -20° C.

Specificity
Specific for the ~120 kDa and ~160 kDa Na^+/Ca^{2+} Exchanger 1 protein in Western blots in a broad range of species and tissues.

Applications
Western blot - 1:1000

Optimal dilutions should be determined by each laboratory for each application.

References

1. Bano, D. *et al*. (2005) Cell **120**:275.
2. Choi, D.W. (2005) Nature. **433**:696.
3. Hagihara, H. *et al*. (2005) Am. J. Physiol. Heart Circ. Physiol. **288**:H1699.
4. Matsuoka, S. *et al*. (1993) Proc. Natl. Acad. Sci. USA **90**:3870.

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