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SLC8A1 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP8939c

Specification

SLC8A1 Antibody (Center) Blocking Peptide - Product Information

Primary Accession P32418

SLC8A1 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 6546

Other Names
Sodium/calcium exchanger 1, Na(+)/Ca(2+)-exchange protein 1, Solute carrier family 8 member 1, SLC8A1, CNC, NCX1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8939c was selected from the Center region of human SLC8A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SLC8A1 Antibody (Center) Blocking Peptide - Protein Information

Name SLC8A1

SLC8A1 Antibody (Center) Blocking Peptide - Background

In cardiac myocytes, Ca(2+) concentrations alternate between high levels during contraction and low levels during relaxation. The increase in Ca(2+) centration during contraction is primarily due to release of Ca(2+) from intracellular stores. However, some Ca(2+) also enters the cell through the sarcolemma (plasma membrane). During relaxation, Ca(2+) is sequestered within the intracellular stores. To prevent overloading of intracellular stores, the Ca(2+) that entered across the sarcolemma must be extruded from the cell. The Na(+)-Ca(2+) exchanger is the primary mechanism by which the Ca(2+) is extruded from the cell during relaxation. In the heart, the exchanger may play a key role in digitalis action. The exchanger is the dominant mechanism in returning the cardiac myocyte to its resting state following excitation.

SLC8A1 Antibody (Center) Blocking Peptide - References

Palty,R., et.al., Proc. Natl. Acad. Sci. U.S.A. 107 (1), 436-441 (2010)Kepp,K., et.al., BMC Med. Genet. 11, 15 (2010)

Function
Mediates the exchange of one Ca(2+) ion against three to four Na(+) ions across the cell membrane, and thereby contributes to the regulation of cytoplasmic Ca(2+) levels and Ca(2+)-dependent cellular processes (PubMed:1374913, PubMed:11241183, PubMed:1476165). Contributes to Ca(2+) transport during excitation-contraction coupling in muscle. In a first phase, voltage-gated channels mediate the rapid increase of cytoplasmic Ca(2+) levels due to release of Ca(2+) stores from the endoplasmic reticulum. SLC8A1 mediates the export of Ca(2+) from the cell during the next phase, so that cytoplasmic Ca(2+) levels rapidly return to baseline. Required for normal embryonic heart development and the onset of heart contractions.

Cellular Location
Cell membrane; Multi-pass membrane protein

Tissue Location
Detected primarily in heart and at lower levels in brain (PubMed:1374913). Expressed in cardiac sarcolemma, brain, kidney, liver, pancreas, skeletal muscle, placenta and lung (PubMed:1476165)

SLC8A1 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides