**Na+/Ca2+ Exchanger 3 (NCX-3) Antibody**

Affinity purified polyclonal antibody  
Catalog # AG1414

### Specification

**Na+/Ca2+ Exchanger 3 (NCX-3) Antibody**  
**Product Information**

<table>
<thead>
<tr>
<th>Application</th>
<th>WB, IHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Accession</td>
<td><strong>P70549</strong></td>
</tr>
<tr>
<td>Reactivity</td>
<td>Human, Mouse, Rat</td>
</tr>
<tr>
<td>Host</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Calculated MW</td>
<td>103163</td>
</tr>
<tr>
<td>Homology</td>
<td>Mouse, human - identical.</td>
</tr>
</tbody>
</table>

**Na+/Ca2+ Exchanger 3 (NCX-3) Antibody**  
**Additional Information**

<table>
<thead>
<tr>
<th>Gene ID</th>
<th>140448</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Names</td>
<td>Sodium/calcium exchanger 3, Na(+)/Ca(2+)-exchange protein 3, Solute carrier family 8 member 3, Slc8a3, Ncx3</td>
</tr>
</tbody>
</table>

Related products for control experiments  
Control peptide antigen (supplied with the antibody free of charge).

**Target/Specificity**

Peptide (C)PLEGKEVDESRRE, corresponding to amino acid residues 303-315 of rat NCX-3 (Accession P70549). 3rd intracellular loop.

**Dilution**

- **WB**: ~1:200-1:2000
- **IHC**: ~1:100

**Peptide Confirmation**

Confirmed by mass-spectrography and amino acid analysis.

**Format**

Affinity purified antibody, lyophilized powder

**Reconstitution**

25 µl, 50 µl or 0.2 ml deionized water, depending on the sample size.

**Antibody Concentration After Reconstitution**

0.8 mg/ml.

**Storage Before Reconstitution**

Lyophilized powder can be stored intact at

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**Western blot analysis of rat brain lysates (lanes 1 and 4), mouse brain lysates (lanes 2 and 5) and human SH-SY5Y neuroblastoma cell lysates (lanes 3 and 6):**

1-3. Anti-Na⁺/Ca²⁺ Exchanger 3 (NCX-3) antibody (#AG1414), (1:200).

4-6. Anti-Na⁺/Ca²⁺ Exchanger 3 (NCX-3) antibody, preincubated with the control peptide antigen.

**Expression of NCX-3 in rat cerebellum**

Immunohistochemical staining of immersion-fixed, free floating rat brain frozen sections using Anti-Na⁺/Ca²⁺ Exchanger 3 (NCX-3) antibody (#AG1414), (1:100). A. NCX-3 staining (green) is expressed mostly in molecular layer (Mol) interneurons (arrow). B. The same section, stained with Parvalbumin (Red). C. Merge of A and B demonstrates that NCX-3 appears to be expressed in several GABAergic neurons in the molecular layer of which Parvalbumin positive cells are only one sub-group (see arrow). DAPI counterstain (blue) displays the layout of cerebellar layers.

**Na+/Ca2+ Exchanger 3 (NCX-3) Antibody - Background**

Ca²⁺ has proven to be a universal signaling molecule in excitable and non-excitable cells. However, being that its intracellular concentration is 1000 time lower than the
room temperature for several weeks. For longer periods, it should be stored at -20°C.

Storage After Reconstitution
The reconstituted solution can be stored at 4°C for up to 2 weeks. For longer periods, small aliquots should be stored at -20°C or below. Avoid multiple freezing and thawing. The further dilutions should be made using a carrier protein such as BSA (1%). Centrifuge all antibody preparations before use (10000 x g 5 min).

Control Antigen Storage Before Reconstitution
Lyophilized powder can be stored intact at room temperature for several weeks. For longer periods, it should be stored at -20°C.

Control Antigen Reconstitution
100 µl DDW.

Control Antigen Storage After Reconstitution
-20°C.

Preadsorption Control
1 µg peptide per 1 µg antibody.

Formulation
Lyophilized powder. Resuspended antibody contains phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN3.

Na+/Ca2+ Exchanger 3 (NCX-3) Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytometry
- Cell Culture

eextracellular milieu, it is important for the cell to keep this ratio for proper function. NCX, a Na+/Ca2+ exchanger is responsible for most of the efflux of Ca2+ out from the cell1-3. The NCX transporter is a member of the SLC8 family of solute carriers which in turn belong to the CaCA superfamily1,4,5.

NCX-3 is one of three Na+/Ca2+ exchangers (NCX-1, NCX-2, NCX-3) leading to one Ca2+ movement across the plasma membrane in exchange of three Na+ influx. However, the transporter can reverse the direction of the transport if the concentrations of Na+ and Ca2+ change6. The transporter has nine transmembrane domains and intracellular N- and C-terminals. Between tansmembrane domains 5 and 6, the presence of an extra-long intracellular loop, termed the f loop is responsible for regulating the activity of NCX-1 via several different mechanisms like ion binding, phosphorylation, etc. The f loop also has sites which undergo alternative splicing7.

Of the three NCX-1 expressed in mammalian cells, NCX-1 is the most widely expressed. Its expression is detected in the heart, brain, and kidney. NCX-1 undergoes alternative splicing in a tissue dependent manner. The first splice region does not change the overall structure of the protein but rather enables the expression of the gene specific to the tissues which require the expression of the gene. The second splicing site leads to a number of proteins varying in length. NCX-2 expression is much more limited; it is expressed only in neurons. NCX-3 is expressed in skeletal muscle and in some regions of the brain and undergoes alternative splicing in a similar fashion to that of NCX-1,8.

Due to its central role in modulating Ca2+ levels in the cell, NCX exchangers are involved in various pathophysiological diseases/disorders such as hypoxia, aging, alzheimer’s7, to name a few.

Na+/Ca2+ Exchanger 3 (NCX-3) Antibody - References