Na+/Ca2+ Exchanger

Na+/Ca2+ exchanger (sodium-calcium exchanger, NCX) is an antiporter membrane protein that removes calcium from cells. It uses the energy that is stored in the electrochemical gradient of sodium (Na+) by allowing Na+ to flow down its gradient across the plasma membrane in exchange for the countertransport of calcium ions (Ca2+). Na+/Ca2+ exchanger removes a single calcium ion in exchange for the import of three sodium ions. Na+/Ca2+ exchanger exists in many different cell types and animal species. Na+/Ca2+ exchanger is considered one of the most important cellular mechanisms for removing Ca2+. The Na+/Ca2+ exchanger does not bind very tightly to Ca2+ (has a low affinity), but it can transport the ions rapidly (has a high capacity), transporting up to five thousand Ca2+ ions per second. The Na+/Ca2+ exchanger also likely plays an important role in regaining the cell’s normal calcium concentrations after an excitotoxic insult.
### Benzamil (Benzylamiloride)  
**Cat. No.: HY-81546**  
Benzamil (Benzylamiloride), an Amiloride analogue, is a Na⁺/Ca²⁺ exchanger (NCX) inhibitor (IC₅₀ ~100 nM). Benzamil also is a non-selective Dgl/epithelial sodium channels (ENaC) blocker, and can potentiate myogenic vasoconstriction.  
**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

### Benzamil hydrochloride (Benzylamiloride hydrochloride)  
**Cat. No.: HY-81546A**  
Benzamil hydrochloride (Benzylamiloride hydrochloride), an Amiloride analogue, is a Na⁺/Ca²⁺ exchanger (NCX) inhibitor (IC₅₀ ~100 nM).  
**Purity:** 99.46%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg, 100 mg

### Caldaret (MCC-135)  
**Cat. No.: HY-100298**  
Caldaret is an intracellular Ca²⁺ handling modulator that acts through reverse mode Na⁺/Ca²⁺ exchanger inhibition.  
**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg

### KB-R7943 mesylate  
**Cat. No.: HY-15415**  
KB-R7943 mesylate is a widely used inhibitor of the reverse Na⁺/Ca²⁺ exchanger (NCXₜ₉) with IC₅₀ values of 5.7 ± 2.3 μM. KB-R7943 mesylate induces cancer cell death via activating the JNK pathway and blocking autophagic flux.  
**Purity:** 98.82%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 10 mg, 50 mg

### ORM-10103  
**Cat. No.: HY-128678**  
ORM-10103 is a specific inhibitor of the Na⁺/Ca²⁺ exchanger (NCX), which decreases the NCX current with estimated IC₅₀ values of 55 and 67 nM at -80 and at 20 mV, respectively.  
**Purity:** 99.24%  
**Clinical Data:** No Development Reported  
**Size:** 5 mg, 10 mg

### ORM-10962  
**Cat. No.: HY-123785**  
ORM-10962 is a potent, highly selective sodium-calcium exchanger (NCX) inhibitor, with IC₅₀ values of 67 and 55 nM for the reverse and forward mode inhibition, respectively.  
**Purity:** 99.74%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

### PPADS tetrasodium  
**Cat. No.: HY-101044**  
PPADS tetrasodium is a non-selective P2X receptor antagonist. PPADS tetrasodium blocks recombinant P2X1, -2, -3, -5 with IC₅₀ ranging from 1 to 2.6 μM. PPADS tetrasodium blocks native P2Y2-like (IC₅₀ ~0.9 mM) and recombinant P2Y4 (IC₅₀ ~15 mM) receptors.  
**Purity:** >95.0%  
**Clinical Data:** No Development Reported  
**Size:** 10 mM × 1 mL, 1 mg, 5 mg, 10 mg

### SM-6586  
**Cat. No.: HY-19062**  
SM-6586 is a calcium channel antagonist and inhibitor of Na⁺/H⁺ and Na⁺/Ca²⁺ exchange transport, potentially for the treatment of cerebrovascular diseases and hypertension.  
**Purity:** >98%  
**Clinical Data:** No Development Reported  
**Size:** 1 mg, 5 mg
### SN 6

SN 6 is a selective Na⁺/Ca²⁺ exchanger (NCX) inhibitor, and inhibits ⁴⁶Ca²⁺ uptake by NCX1, NCX2, and NCX3, with IC₅₀s of 2.9, 16, and 8.6 μM, respectively.

<table>
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<tr>
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### Terfenadine

Terfenadine ((±)-Terfenadine) is a potent open-channel blocker of hERG with an IC₅₀ of 204 nM. Terfenadine, an H₁ histamine receptor antagonist, acts as a potent apoptosis inducer in melanoma cells through modulation of Ca²⁺ homeostasis.

<table>
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<td>Size</td>
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### YM-244769 dihydrochloride

YM-244769 dihydrochloride is a potent Na⁺/Ca²⁺ exchange (NCX) inhibitor that preferentially inhibits NCX3 (IC₅₀=18 nM). Neuronal and renal protection.

<table>
<thead>
<tr>
<th>Purity</th>
<th>&gt;98%</th>
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<tbody>
<tr>
<td>Clinical Data</td>
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<tr>
<td>Size</td>
<td>1 mg, 5 mg</td>
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