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.
Na+/Ca2+ Exchanger Inhibitors & Activators

**Caldaret**
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, 10 mg

**CGP37157**
Cat. No.: HY-15754

CGP37157 is a potent, selective inhibitor of Na+/Ca2+ exchanger, inhibiting the Na+-induced Ca2+-release from guinea-pig heart mitochondria, with an IC50 of 0.8 μM.

Purity: 99.79%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg, 50 mg, 100 mg

**KB-R7943 mesylate**
Cat. No.: HY-15415

KB-R7943 mesylate is a widely used inhibitor of the reverse Na+/Ca2+ exchanger (NCXrev) with IC50 of 5.7±2.1 μM. KB-R7943 mesylate induces cancer cell death via activating the JNK pathway and blocking autophagic flux.

Purity: 99.39%
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 of 55 and 67 nM at -80 and at 20 mV, respectively.

Purity: >98%
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: >98%
Clinical Data: No Development Reported
Size: 100 mg, 250 mg, 500 mg

**SEA0400**
Cat. No.: HY-15515

SEA0400 is a novel and selective inhibitor of the Na+-Ca2+ exchange (NCX), inhibiting Na+-dependent Ca2+ uptake in cultured neurons, astrocytes, and microglia with IC50s of from 5 to 33 nM.

Purity: 99.97%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 2 mg, 5 mg, 10 mg, 50 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, 10 mg, 20 mg

**SN 6**
Cat. No.: HY-107658

SN 6 is a selective Na+/Ca2+ exchanger (NCX) inhibitor, and inhibits 45Ca2+ uptake by NCX1, NCX2, and NCX3, with IC50s of 2.9, 16, and 8.6 μM, respectively.

Purity: >99.0%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 5 mg, 10 mg, 25 mg

**Terfenadine**
((±)-Terfenadine; MDL-991)| Cat. No.: HY-81193

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.

Purity: 98.26%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg

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