

# Nigericin (sodium salt)

Catalog No: tcsc5717



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 25mg

**Size:** 50mg

**Size:** 100mg



## Specifications

**CAS No:**

28643-80-3

**Formula:**

$C_{40}H_{67}NaO_{11}$

**Pathway:**

Membrane Transporter/Ion Channel

**Target:**

Potassium Channel

**Purity / Grade:**

>98%

**Solubility:**

Ethanol :  $\geq 50$  mg/mL (66.94 mM); DMSO : 5 mg/mL (6.69 mM; Need ultrasonic and warming)

**Alternative Names:**

Sodium Nigericin

## Observed Molecular Weight:

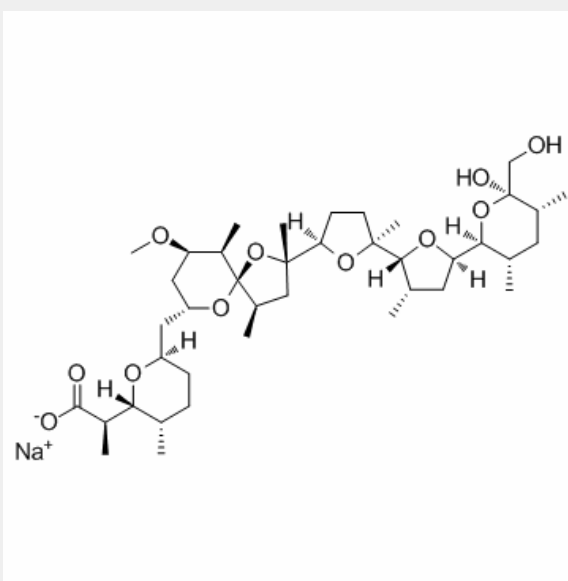
746.94

## Product Description

Nigericin sodium salt is an antibiotic from *Streptomyces hygroscopicus* that works by acting as an H<sup>+</sup>, K<sup>+</sup>, and Pb<sup>2+</sup> ionophore.

**In Vitro:** Nigericin (0.1 μM) decreases inhibits proliferation and clonogenicity of H460 lung cancer cells in a dose dependent manner. Nigericin inhibits migration and invasion of H460 lung cancer cells<sup>[1]</sup>. Nigericin (0.1-10 nM) has apparently a dual effect on cell volume, that is a shrinking effect at lower Nigericin concentrations and a swelling effect at higher concentrations. Nigericin (0.1-1 nM) significantly decreases cytosolic pH (pHi), and slightly increases the pHi at 5 and 10 nM<sup>[2]</sup>. Nigericin exhibits higher toxicity on S18 cells than S26 cells, with IC<sub>50</sub> of 2.03±0.55 μM and 4.77±2.35 μM, respectively. Nigericin can selectively kill cancer stem cells in NPC in vitro. Nigericin dramatically reduces the migration ability of S18 and HONE-1 cells<sup>[3]</sup>. Nigericin exhibits great toxicity for the HT29 and SW116 cell line with IC<sub>50</sub> of 12.92±0.25 μmol and 15.86±0.18 μmol. Nigericin also shows a decreased ability to form colonies under anchorage-independent conditions in a standard soft agar assay<sup>[4]</sup>.

**In Vivo:** Nigericin (4 mg/kg, i.p.) significantly reduces tumor growth and acts synergistically with the chemotherapeutic agent DDP, as shown by the tumor volumes. Nigericin markedly decreases Bmi-1 in vivo. Overexpression of Bmi-1 partially restores CSC content and metastatic ability of NPC cells under Nigericin treatment. The downregulation of Bmi-1 may be involved in the inhibitory effect of Nigericin on CSCs in NPC<sup>[3]</sup>.



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