Taiclone®
Quality Guarantee

Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

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 : ≥ 50 mg/mL (66.94 mM); DMSO : 5 mg/mL (6.69 mM; Need ultrasonic and warming)

Alternative Names:
Sodium Nigericin

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Observed Molecular Weight:
746.94

Product Description

Nigericin sodium salt is an antibiotic from *Streptomyces hygroscopicus* that works by acting as an H^+, K^+, and Pb^{2+} 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[1]. 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[2]. Nigericin exhibits higher toxicity on S18 cells than S26 cells, with IC_{50} 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[3]. Nigericin exhibits gteat toxicity for the HT29 and SW116 cell line with IC_{50} 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[4].

In Vivo: Ngericin (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[3].