

# PRODUCT INFORMATION



## Nigericin (sodium salt)

Item No. 11437

CAS Registry No.: 28643-80-3

Formal Name: (R)-2-((2R,3S,6R)-6-(((2S,4R,5R,7R,9R,10R)-2-((2S,2'R,3'S,5R,5'R)-5'-((2S,3S,5R,6R)-6-hydroxy-6-(hydroxymethyl)-3,5-dimethyltetrahydro-2H-pyran-2-yl)-2,3'-dimethyloctahydro-[2,2'-bifuran]-5-yl)-9-methoxy-2,4,10-trimethyl-1,6-dioxaspiro[4.5]decan-7-yl)methyl)-3-methyltetrahydro-2H-pyran-2-yl)propanoate, monosodium salt

Synonym: NSC 292567

MF: C<sub>40</sub>H<sub>67</sub>O<sub>11</sub> • Na

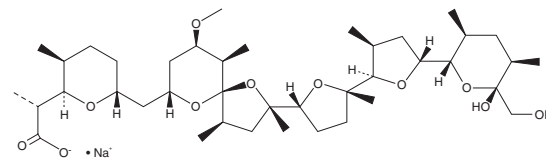
FW: 747.0

Purity: ≥95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Nigericin (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the nigericin (sodium salt) in the solvent of choice. Nigericin (sodium salt) is soluble in organic solvents such as ethanol and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of nigericin (sodium salt) in ethanol is approximately 20 mg/ml and approximately 1.2 mg/ml in DMF.

Nigericin (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, nigericin (sodium salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Nigericin (sodium salt) has a solubility of approximately 0.15 mg/ml in a 1:5 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Nigericin is a lipophilic potassium ionophore that has been found in *S. hygroscopicus*.<sup>1,2</sup> It mediates neutral antiport of potassium and proton ions across mitochondrial membranes.<sup>2</sup> Nigericin (10 μM) induces *T. gondii* egress in infected human foreskin fibroblasts (HFFs).<sup>1</sup> It also induces NOD-like receptor protein 3 (NLRP3) inflammasome activation and pyroptosis in LPS-primed primary mouse bone marrow-derived macrophages (BMDMs) when used at a concentration of 20 μM.<sup>3</sup>

### References

1. Fruth, I.A. and Arrizabalaga, G. Toxoplasma gondii: Induction of egress by the potassium ionophore nigericin. *Int. J. Parasitol.* **37**(14), 1559-1567 (2007).
2. Kucejova, B., Kucej, M., Petrezselyova, S., et al. A screen for nigericin-resistant yeast mutants revealed genes controlling mitochondrial volume and mitochondrial cation homeostasis. *Genetics* **171**(2), 517-526 (2005).
3. Place, D.E., Samir, P., Malireddi, R.K.S., et al. Integrated stress response restricts macrophage necroptosis. *Life Sci. Alliance* **5**(1), e202101260 (2021).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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