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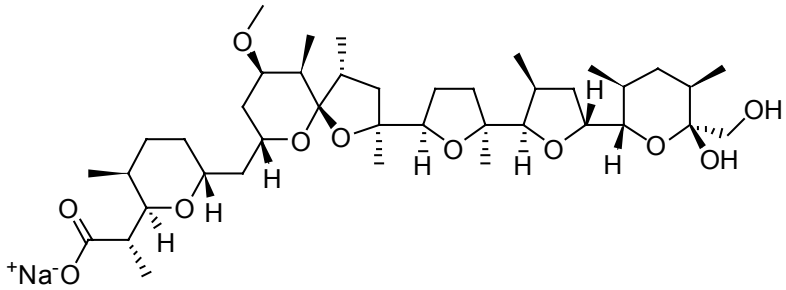
fine chemicals

PRODUCT DATA SHEET

Nigericin sodium

Code: **BIA-N1220**

Pack sizes: **5 mg, 25 mg**



Synonyms :

Specifications

CAS #	:	**28643-80-3**
Molecular Formula	:	**$C_{40}H_{67}NaO_{11}$**
Molecular Weight	:	**746.9**
Source	:	***Streptomyces hygroscopicus***
Appearance	:	**White powder**
Purity	:	**> 98%**
Long Term Storage	:	**- 20°C**
Solubility	:	**Soluble in DMSO, partially soluble in methanol and methanol, poor water solubility**

Application Notes

Nigericin sodium is not a typical salt. Since nigericin is an ionophore its very high affinity for monovalent cations such as Na^+ and K^+ means formation of a salt is a facile possess occurring during purification under any but highly acidic conditions. Typically, the salts of polyether ionophores like the free acid are readily extracted into organic solvents. The sodium ion is stabilised within a polar pocket of the structure effectively making the salt and free acid different chemical moieties with the potential for differing pharmacology, a fact not readily appreciated in the literature.

References

1. Nigericin, a new crystalline antibiotic from an unidentified *streptomyces*. Harned R.L. et al., Antibiot. Chemother. 1951, 1, 594.
2. The structure of nigericin. Steinrauf L.K. et al., Biochem. Biophys. Res. Commun. 1968, 33, 29.
3. Nigericin-induced Na^+/H^+ and K^+/H^+ exchange in synaptosomes: effect on [3H]GABA release. Rodriguez R. & Sitges M., Neurochem. Res. 1996, 21, 889.
4. Nigericin inhibits accumulation of the steroidogenic acute regulatory protein but not steroidogenesis. King S.R. et al., Mol. Cell. Endocrinol. 2000, 166, 147.
5. Nigericin inhibits insulin-stimulated glucose transport in 3T3-L1 adipocytes. Chu C.Y. et al., J. Cell. Biochem. 2002, 85, 83.
6. Inhibitory effects of polyethers on human immunodeficiency virus replication. Nakamura M., Antimicrob. Ag. Chemother. 1992, 36, 492.

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