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**Product Data Sheet**


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Product Name: Narasin (sodium salt)

Cat. No.: GC14287

**Chemical Properties**

Cas. No. 58331-17-2

Chemical Name 4S-methyl-salinomycin, monosodium salt

SMILES C[C@@H]1[C@@]([C@@H](C)[C@H](O)[C@H](C)C([C@@H]([C@]2([H])[C@@H](C)C[C@@H](C)[C@]3(O[C@@]4(CC[C@]([C@@]5([H])CC[C@@](CC)(O)[C@H](C)O5)(C)O4)[C@H](O)C=C3)O2)CC)=O)([H])O[C@]([C@@H](CC)C([O-])=O)([H])[C@@H](C)C1.[Na+]Formula C<sub>43</sub>H<sub>71</sub>O<sub>11</sub> • Na

M.Wt 787

Solubility DMF: Soluble, DMSO: Soluble, Ethanol: Soluble, Methanol: Soluble

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure **Background**IC<sub>50</sub>: 3.2 μM: blocks NF-κB signaling via inhibition of IκBα phosphorylation

Narasin, isolated from certain *Streptomyces* sp. is an ionophore antibiotic. As a coccidiostat, it can be used in veterinary practice for gastrointestinal parasites. Narasin has been shown to induce tumor necrosis factor-related apoptosis-induced ligand (TRAIL)-mediated apoptosis by ER stress in glioma cells and to dampen NF-κB signaling by suppressing the phosphorylation of IκBα. NF-κB, as a transcription factor, plays a vital role across many cellular processes which are involved in neuronal and embryonic development, cell proliferation, apoptosis, and immune responses to infection and inflammation.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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In vitro: Narasin caused suicidal erythrocyte death or eryptosis. When human erythrocytes were exposed to narasin, it was shown that narasin resulted in the increase of annexin-V-binding indicating cell membrane scrambling with phosphatidylserine translocation to the erythrocyte surface and the decrease of forward scatter reflecting cell shrinkage, which indicated the death of erythrocyte [1]. Narasin blocked NF- $\kappa$ B signaling via inhibition of I $\kappa$ B $\alpha$  phosphorylation at a lower concentration [2].

In vivo: New Zealand White rabbits were given narasin 4-48 p. p. m, in pelleted feed. After 4 weeks, the experiments indicated that narasin protected rabbits from severe coccidiosis induced by *E. flavescens*, *E. perforans*, *E. magna*, *E. intestinalis*, and *E. stiedai*. In addition, narasin reduced oocyst output in a highly effective fashion [3].

### References:

- [1]. Bouguerra, G., Bissinger, R., Abbes, S., & Lang, F. Stimulation of Eryptosis by Narasin. *Cellular Physiology and Biochemistry*. 2015; 37(5):1807-1816.
- [2]. Miller, S., Huang, R., Sakamuru, S., Shukla, S., Attene-Ramos, M., & Shinn, P. et al. Identification of known drugs that act as inhibitors of NF- $\kappa$ B signaling and their mechanism of action. *Biochemical Pharmacology*. 2010; 79(9): 1272-1280.
- [3]. Peeters, J., Geeroms, R., Antoine, O., Mammerickx, M., & Halen, P. Efficacy of narasin against hepatic and intestinal coccidiosis in rabbits. *Parasitology*. 1981; 83(02): 293-301.

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