

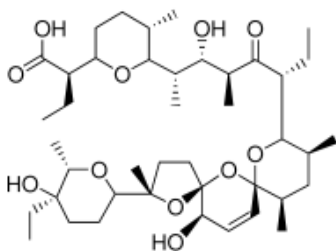
Product Information

Salinomycin, Ready Made Solution from *Streptomyces albus*

Catalog Number **S6201**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 53003-10-4



Product Description

Molecular Weight: 751.00

Molecular formula: $\text{C}_{42}\text{H}_{70}\text{O}_{11}$

Salinomycin is a monocarboxylic polyether antibiotic with unique tricyclic spiroketal ring systems and an unsaturated six-membered ring in the molecule.¹ It has antimicrobial and anticoccidial activities, and is an alkali ion carrier with affinity for cations with preference for K^+ over other monovalent and divalent cations.¹

Polyether antibiotics (also called carboxylic ionophores) facilitate bidirectional ion flux through the lipid barrier of membranes causing interference with natural ion transport systems both in prokaryotic and eukaryotic cells.²⁻⁶ It has been shown tumor cells express elevated levels of various types of K^+ channels, which enhances cell proliferation. Thus, drugs acting as channel blockers inhibit cell proliferation.^{4,5}

Being a highly selective potassium ionophore, Salinomycin may interfere with the function of potassium channels in cancer stem cells (CSCs).⁵ Established cancer therapies may fail because they kill the bulk tumor cells but do not eliminate CSCs. Recent studies indicate salinomycin selectively eradicates breast CSCs.⁵ Salinomycin may eliminate CSCs by inducing their differentiation. Salinomycin was also found to suppress the metastatic migration of 4T1 cells to the lungs.⁵

The product is supplied as a $0.2\text{ }\mu\text{m}$ -filtered, 2 mg/mL (2.66 mM) solution in DMSO.

Salinomycin is also soluble in alcohols, esters, chloroform, ether, carbon tetrachloride, and hexane; insoluble in water.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store the product sealed at $-20\text{ }^{\circ}\text{C}$. Under these conditions the product is stable for at least 2 years.

References

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2. Mitani, M. et al., Salinomycin effects on mitochondrial ion translocation and respiration. *Antimicrob. Agents Chemother.*, **9**, 655-660 (1976).
3. Butaye, P. et al., Antimicrobial growth promoters used in animal feed: effects of less well known antibiotics on gram-positive bacteria. *Clin. Microbiol. Rev.*, **16**, 175-188 (2003).
4. Gupta, P.B. et al., Identification of selective inhibitors of cancer stem cells by high-throughput screening. *Cell*, **138**, 645-659 (2009).
5. Beug, H., Breast cancer stem cells: eradication by differentiation therapy? *Cell*, **138**, 623-625 (2009).
6. Le Guennec, J.Y. et al., Voltage-gated ion channels, new targets in anti-cancer research *Recent Pat. Anticancer Drug Discov.*, **2**, 189-202 (2007).

EM,DWF,DZ,KAA,PHC,MAM 11/13-1