

Product Data Sheet

Product Name: Lagosin
Cat. No.: GC11791

Chemical Properties

Cas. No. 6834-98-6

Chemical Name (3R,4S,6S,8S,10R,12R,14R,15R,16R,17E,19E,21E,23E,25E,27S,28R)-4,6,8,10,12,14,15,16,27-nonahydroxy-3-[(1R)-1-hydroxyhexyl]-17,28-dimethyl-oxacyclooctacos-17,19,21,23,25-pentaen-2-one

SMILES C/C1=C\C=C\C=C\C=C\C=C\C[C@H](O)[C@@H](C)OC([C@@]([C@H](O)CCCC)([H])[C@@H](O)C[C@@H](O)C[C@@H](O)C[C@@H](O)C[C@@H](O)C[C@@H](O)[C@@H](O)[C@@H](O)[C@@H]1O)=O

Formula C₃₅H₅₈O₁₂ M.Wt 670.8

Solubility DMF: Soluble, DMSO: Soluble, Ethanol: Soluble, Methanol: Soluble
Storage 4°C, protect from light

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 sizes: ship with RT, or blue ice upon request.

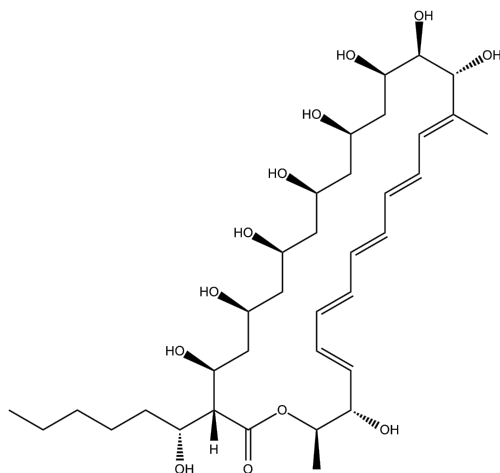
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Protocol

Cell experiment [1]:

Cell lines Chinese hamster V79 cells

Chinese hamster V79 cells were maintained in minimal essential medium Preparation Method supplemented with 10% fetal bovine serum. Cells were treated with Lagosin and bleomycin A2 for specified durations.

Reaction 4-12µg/ml; 2h pretreatment
Conditions

Applications Lagosin significantly enhanced the cellular uptake of [¹⁴C]bleomycin A2 by 2- to 4-fold. Lagosin synergistically inhibited DNA synthesis and colony-forming activity when combined with bleomycin A2.

Animal experiment [2]:

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Animal models Balb/C mice bearing EMT6 solid tumours

Preparation Method Lagosin was suspended in 0.5% carboxymethyl cellulose in Hanks' solution and injected intraperitoneally (i.p.). Tumours were treated when they reached a size of around 150mm³ (Day 9-10 post-inoculation).

Dosage form 20mg/kg; i.p.; single injection

Applications Lagosin alone was not very cytotoxic to the tumour cells in vivo.

References:

[1] Akiyama SI, Hidaka K, Komiyama S, et al. Control of permeation of bleomycin A2 by polyene antibiotics in cultured Chinese hamster cells. *Cancer Res.* 1979 Dec;39(12):5150-4.

[2] Twentyman PR. The effect of bleomycin and pentamycin in combination on the survival of EMT6 mouse tumour cells in vitro and in vivo. *Br J Cancer.* 1976 Apr;33(4):459-64.

Background

Lagosin is a polyene macrolide antibiotic. Lagosin exerts its antifungal effects by interacting with membrane sterols and possesses broad-spectrum antifungal and antitumor activities. Lagosin can be used in research related to antifungal infections and antitumor studies^[1-4].

In vitro, Lagosin (1-2µg/ml) was used to treat Chinese hamster V79 cells for 2 hours, followed by stimulation with [¹⁴C]bleomycin A2. Lagosin significantly enhanced the cellular uptake of [¹⁴C]bleomycin A2^[5]. Lagosin (50µg/ml) was used to treat L-form cells of *Escherichia coli* W1655F+ for 6 hours. Lagosin inhibited the growth of the L-form cells^[6].

In vivo, Lagosin (20mg/kg; single injection) was administered via intraperitoneal injection to Balb/C mice bearing EMT6 solid tumors. Lagosin alone did not exhibit significant cytotoxicity against the

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tumor cells^[6].

References:

- [1] Dembitsky VM, Terent'ev AO, Baranin SV, et al. Boron's Double Edge-Antibiotics, Toxins, and the Fine Line Between Them. *Molecules*. 2026 Mar 18;31(6):1021.
- [2] Peng C, An D, Ding WX, et al. Fungichromin production by *Streptomyces* sp. WP-1, an endophyte from *Pinus dabeshanensis*, and its antifungal activity against *Fusarium oxysporum*. *Appl Microbiol Biotechnol*. 2020 Dec;104(24):10437-10449.
- [3] Pandey RC, Guenther EC, Aszalos AA, et al. Physicochemical and biological comparison of polyene macrolide antibiotics fungichromin, lagosin and cogomycin. *J Antibiot (Tokyo)*. 1982 Aug;35(8):988-96.
- [4] Arora HR. Effects of polyene antibiotics on the heart. A study with nystatin and lagosin. *Med Pharmacol Exp Int J Exp Med*. 1965;13(3):155-60.
- [5] Akiyama SI, Hidaka K, Komiyama S, et al. Control of permeation of bleomycin A2 by polyene antibiotics in cultured Chinese hamster cells. *Cancer Res*. 1979 Dec;39(12):5150-4.
- [6] Twentyman PR. The effect of bleomycin and pentamycin in combination on the survival of EMT6 mouse tumour cells in vitro and in vivo. *Br J Cancer*. 1976 Apr;33(4):459-64.

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