

Product Data Sheet

Product Name: Verrucarin J

Cat. No.: GC71872

Chemical Properties

Cas. No. 4643-58-7

Formula $C_{27}H_{32}O_8$

M.Wt 484.54

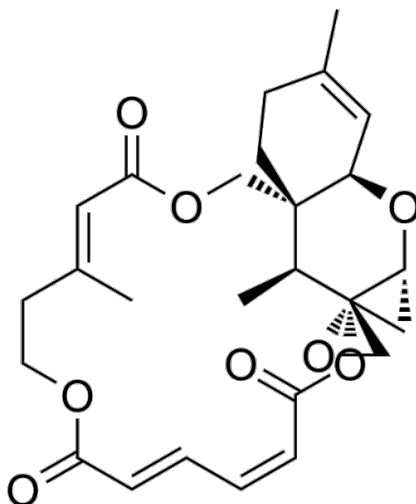
Solubility

Storage -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

Verrucarin J (Muconomycin B) is a metabolite of the Myrothecium fungus family. Verrucarin J generates reactive oxygen species (ROS) and induces apoptosis of cancer cell lines, such as A549, HCT 116 and SW-620 cells. Verrucarin J shows activities against Candida albicans and Mucor miehei. Verrucarin J inhibits arenavirus Junin (JUNV) yield with an IC50 of 1.2 ng/mL.

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

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Verrucarín J (0, 5, 10, 20, 50 nM; 24 hours) induces the apoptosis of A549 cells [1].

Verrucarín J (0, 1, 2, 5, 10, 20, 50 nM; 24, 48, 72 hours) significantly inhibits cell proliferation of A549 and H1793 cells with IC₅₀ values of approximately 10 nM and 20 nM after 48 h of treatment, respectively[1].

Verrucarín J (0, 0.1, 0.2, 0.3, 0.4, 0.5 µM; 24 hours) has an IC₅₀ of 300 nM for HCT 116 and SW-620 cell proliferation[2].

Verrucarín J (0, 10, 20 nM, 48 hours) inhibits cancer stem cell (CSC) self-renewal pathways Wnt1/β-catenin and Notch1 and down-regulates the expression of key CSC specific genes (ALDH1, LGR5, OCT4 and CD133) of A549 cells[1].

Verrucarín J (compound 2; 50 µg/disk) shows noteworthy activities against *Candida albicans* and *Mucor miehei*[3].

Verrucarín J reduces JUNV yield more than 2 log units and has a similar effect against the arenavirus Tacaribe[4].

Verrucarín J reduces the cell viability of Vero cells with a cytotoxic concentration 50%(CC₅₀) of 8.2 ng/mL[4].

Verrucarín J (0.5 mg/kg; i.p. for 4 weeks) suppresses AKT-induced tumor growth in a xenograft model[2].

Verrucarín J (0.1, 0.5, 2.0 mg/kg; i.p. for three weeks) is a highly potent anticancer drug and suppresses tumor growth and metastasis[5].

References:

- [1]. Udoh K, et al. Targeting of Lung Cancer Stem Cell Self-Renewal Pathway by a Small Molecule Verrucarín J. Stem Cell Rev Rep. 2019 Aug;15(4):601-611.
- [2]. Pal D, et al. Suppression of Notch1 and AKT mediated epithelial to mesenchymal transition by Verrucarín J in metastatic colon cancer. Cell Death Dis. 2018 Jul 23;9(8):798.
- [3]. Mondol MA, et al. Macrocyclic Trichothecenes from *Myrothecium roridum* Strain M10 with Motility Inhibitory and Zoosporicidal Activities against *Phytophthora nicotianae*. J Agric Food Chem. 2015 Oct 14;63(40):8777-86.
- [4]. García CC, et al, Damonte EB. Evaluation of the antiviral activity against Junin virus of macrocyclic trichothecenes produced by the hypocrealean epibiont of *Baccharis coridifolia*. Planta

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Med. 2002 Mar;68(3):209-12.

[5]. Carter K, et al. Verrucarin J inhibits ovarian cancer and targets cancer stem cells. Oncotarget. 2017 Oct 6;8(54):92743-92756.

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