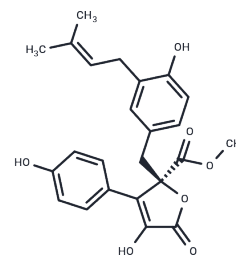


Butyrolactone I

Chemical Properties

| | |
|-------------------|--|
| CAS No. : | 87414-49-1 |
| Formula: | C ₂₄ H ₂₄ O ₇ |
| Molecular Weight: | 424.44 |
| Storage: | Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i> |



Biological Description

| | |
|---------------|---|
| Description | Butyrolactone I (Olomoucine) is an ATP-competitive inhibitor of CDK and cdc2 kinase family. Butyrolactone I shows antitumor effects in non-small cell lung, small cell lung, and prostate cancer cell lines. |
| Targets(IC50) | Apoptosis,Bcl-2 Family,NF-κB,CDK,PERK,ROS |
| In vitro | Butyrolactone I (70 and 100 μM) increases the percentage of DU145 cells in the 4C phase of the cell cycle. Butyrolactone I increases the amount of cyclin B1 positive cells in the 4C phase on day 1 and returns to normal by day 3. Butyrolactone I inhibits Cdc2 of unsynchronized cultured prostate cancer cells and interrupts the cell cycle progression toward cell division. The Butyrolactone I inhibition of Cdc2 led to the accumulation of cells in the 4C phase without mitosis resulting in an accumulation of cyclin B1[3]. |

Solubility Information

| | |
|---------------------|--|
| Solubility | DMSO: 80 mg/mL (188.48 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (7.77 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i> |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|------------|------------|
| 1 mM | 2.356 mL | 11.7802 mL | 23.5605 mL |
| 5 mM | 0.4712 mL | 2.356 mL | 4.7121 mL |
| 10 mM | 0.2356 mL | 1.178 mL | 2.356 mL |
| 50 mM | 0.0471 mL | 0.2356 mL | 0.4712 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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- Maziero RR, et al. Effect of Temporary Meiotic Attenuation of Oocytes with Butyrolactone I and Roscovitine in Resistance to Bovine Embryos on Vitrification. *Reprod Domest Anim*. 2016 Apr;51(2):204-11.
- Nishio K, et al. Antitumor effects of butyrolactone I, a selective cdc2 kinase inhibitor, on human lung cancer cell lines. *Anticancer Res*. 1996 Nov-Dec;16(6B):3387-95.
- Suzuki M, et al. Butyrolactone I induces cyclin B1 and causes G2/M arrest and skipping of mitosis in human prostate cell lines. *Cancer Lett*. 1999 Apr 26;138(1-2):121-30.

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