

Vincristine

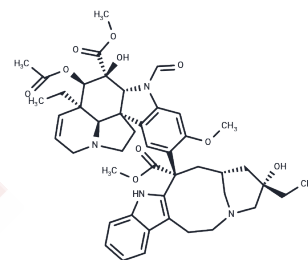
Chemical Properties

CAS No. : 57-22-7

Formula: C₄₆H₅₆N₄O₁₀

Molecular Weight: 824.96

Storage: Keep away from direct sunlight, Store at low temperature, Keep away from moisture
 Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	Vincristine binds to tubulin and inhibits the formation of microtubules, thereby inhibiting mitosis of the cancer cell. Vincristine can be used as a microtubule-destabilizing agent for research on the treatment of hematologic cancers, such as leukemia and
Targets(IC50)	ERK,NF-κB,Akt,Microtubule Associated,Antibiotic,JNK,mTOR,p38 MAPK
In vitro	<p>METHODS: Neuroblastoma cells SH-SY5Y were treated with Vincristine (0.001-10 μM) for 24-72 h. Cell viability was measured by MTT assay.</p> <p>RESULTS: Vincristine inhibited the proliferation of SH-SY5Y cells in a dose- and time-dependent manner, with IC₅₀s of 0.113 μM, 0.078 μM, and 0.051 μM at 24, 48, and 72 h, respectively. [1]</p> <p>METHODS: Human leukemia cells MOLT-4 were treated with Vincristine (0.3-3 μM) and SAHA (500 nM) for 24-48 h. Cell cycle was detected using Flow cytometry.</p> <p>RESULTS: Vincristine treatment induced an increase in the G₂/M phase of the cell cycle compared to SAHA. the combination of Vincristine plus SAHA resulted in almost complete cell arrest in the G₂/M phase after short-term treatment (24 h), followed by induction of the cells into the sub-G₁ phase after long-term treatment (48 h). the combination of Vincristine and SAHA resulted in an increase in the G₂/M phase of the cell cycle compared to SAHA. [2]</p>
In vivo	<p>METHODS: To assay antitumor activity in vivo, Vincristine (0.025 mg/kg, intravenously, once weekly) and SAHA (200 mg/kg, orally, once daily) were administered to SCID mice bearing MOLT-4 xenografts for 24 days.</p> <p>RESULTS: TGD did not improve in mice treated with Vincristine or SAHA alone. However, log-rank analysis showed that co-treatment exhibited significant anti-tumor activity in the MOLT-4 xenograft model. [2]</p>

Solubility Information

Solubility	DMSO: 12 mg/mL (14.55 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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A DRUG SCREENING EXPERT

In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 1 mg/mL (1.21 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>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2122 mL	6.0609 mL	12.1218 mL
5 mM	0.2424 mL	1.2122 mL	2.4244 mL
10 mM	0.1212 mL	0.6061 mL	1.2122 mL
50 mM	0.0242 mL	0.1212 mL	0.2424 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

Tu Y, et al. Vincristine induces cell cycle arrest and apoptosis in SH-SY5Y human neuroblastoma cells. *Int J Mol Med.* 2013 Jan;31(1):113-9.

Chao MW, et al. The synergic effect of vincristine and vorinostat in leukemia in vitro and in vivo. *J Hematol Oncol.* 2015 Jul 10;8:82.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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