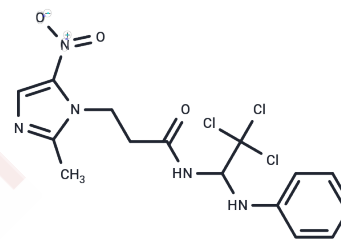


Apcin

Chemical Properties

CAS No. :	300815-04-7
Formula:	C ₁₃ H ₁₄ Cl ₃ N ₇ O ₄
Molecular Weight:	438.65
Storage:	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	Apcin is a potent and competitive inhibitor of anaphase-promoting complex/cyclosome (APC/C(Cdc20)) E3 ligase activity. Apcin competitively inhibits APC/C-dependent ubiquitylation by binding to Cdc20 and preventing substrate recognition. It acts by blocking mitotic exit and being synergistically amplified by co-addition of Ts-Arg-OMe.
Targets(IC50)	APC/C
In vitro	apcin as a small molecule ligand of Cdc20 that inhibits APC/CCdc20 and prolongs mitosis. Apcin paradoxically shortens mitosis when SAC activity is high. These opposing effects of apcin arise from targeting of a common binding site in Cdc20 required for both substrate ubiquitination and MCC-dependent APC/C inhibition. Furthermore, apcin cooperates with p31comet to relieve MCC-dependent inhibition of APC/C. Apcin therefore causes either net APC/C inhibition, prolonging mitosis when SAC activity is low, or net APC/C activation, shortening mitosis when SAC activity is high, demonstrating that a small molecule can produce opposing biological effects depending on regulatory context.

Solubility Information

Solubility	DMSO: 235 mg/mL (535.73 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: 10 mg/mL (22.8 mM), Solution. 10% DMSO+90% Saline: < 10 mg/mL (22.8 mM), Lower concentrations may be soluble, but exact solubility limit is unknown. <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	2.2797 mL	11.3986 mL	22.7972 mL
5 mM	0.4559 mL	2.2797 mL	4.5594 mL
10 mM	0.228 mL	1.1399 mL	2.2797 mL
50 mM	0.0456 mL	0.228 mL	0.4559 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

Katherine V Richeson, et al. Paradoxical mitotic exit induced by a small molecule inhibitor of APC/C Cdc20. *Nat Chem Biol.* 2020 May;16(5):546-555.

Katharine L Sackton, et al. Synergistic blockade of mitotic exit by two chemical inhibitors of the APC/C. *Nature.* 2014 Oct 30;514(7524):646-9.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481