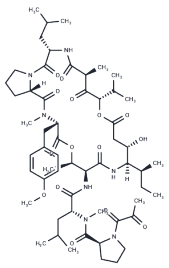
Data Sheet (Cat.No.T9715)

TargetMol

Aplidine

Chemical Properties



CAS No. : 137219-37-5

Formula: C57H87N7O15

Molecular Weight: 1110.34

Storage: Store at low temperature
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	Aplidine possesses antiviral activity against SARS-CoV-2(IC90 = 0.88 nM). Aplidine is a potent anti-cancer agent by targeting eukaryotic translation elongation factor 1 Alpha 2 (EEF1A2, Kd = 80nM).
Targets(IC50)	DNA/RNA Synthesis,SARS-CoV
In vitro	In hACE2-293T cells, Aplidine exhibits anti-SARS-CoV-2 activity with an IC90 of 0.88 nM. In an established model of human pneumocyte-like cells, Aplidine inhibits SARS-CoV-2 replication with an IC90 of 3.14 nM and a selectivity index of 40.4[1]. Aplidine (20 nM; 1 h) induces a dose-dependent decrease in VEGF secretion in MOLT-4 cells. Aplidine (20 nM; 1 h) does not result in significant inhibition of VEGF-R1 mRNA in normal endothelial cells, which do express VEGFR-1 but do not secrete VEGF[1].
In vivo	In BALB/c mice expressing human ACE2, Aplidine significantly reduced SARS-CoV-2 infection. 0.3 mg/kg Aplidine group results in a reduction of nearly 2 log units in SARS-CoV-2 viral titers in the lungs, and the 1 mg/kg group leads to a reduction of 1.5 log units[2].

Solubility Information

Solubility	DMSO: 50 mg/mL (45.03 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (2.97 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9006 mL	4.5031 mL	9.0063 mL
5 mM	0.1801 mL	0.9006 mL	1.8013 mL
10 mM	0.0901 mL	0.4503 mL	0.9006 mL
50 mM	0.018 mL	0.0901 mL	0.1801 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

Alejandro Losada, et al. Translation Elongation Factor eEF1A2 is a Novel Anticancer Target for the Marine Natural Product Plitidepsin. Sci Rep. 2016 Oct 7;6:35100.
Kris M White, et al. Plitidepsin has potent preclinical efficacy against SARS-CoV-2 by targeting the host protein eEF1A. Science. 2021 Feb 26;371(6532):926-931.