Data Sheet (Cat.No.T16884)

TargetMol

Silvestrol

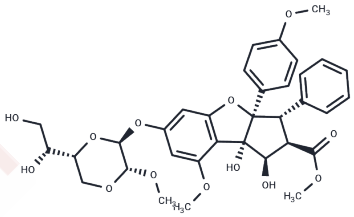
Chemical Properties

CAS No. : 697235-38-4

Formula: C34H38O13

Molecular Weight: 654.66

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	Silvestrol, a eukaryotic translation initiation factor 4A inhibitor, induces autophagy and caspase-mediated apoptosis.
Targets(IC50)	Apoptosis,Others,Autophagy,PERK
In vitro	Silvestrol shows significant cytotoxic activity against many human cancer cell lines, such as lung, prostate, and breast cancer (IC50: ranging from 1 to 7 nM). Silvestrol significantly reduces the number of LNCaP cell colonies. Silvestrol-mediated cell death is attenuated in ATG7-null mouse embryonic fibroblasts lacking a functional autophagy protein. Silvestrol induces caspase-3 activation and apoptotic cell death in a time- and dose-dependent manner. Silvestrol and episilvestrol show synergistic effects in combination with CDDP. Silvestrol (30 nM, 120 nM) induces apoptosis in LNCaP cells, through the mitochondrial pathway. Silvestrol (50 nM) exerts an immediate inhibitory effect and causes near-static cell index compared with the control cells. Silvestrol (6.25 nM) enhances proliferation more than the vehicle control-treated cells, whereas a higher concentration of Silvestrol (50 nM) can inhibit cell proliferation [1][2][3][4].
In vivo	Silvestrol significantly prolongs survival compared to vehicle. Silvestrol (1.5 mg/kg, i.p.) does not adversely affect the production of human IgG by xenografted B-lymphocytes in mice [5].

Solubility Information

Solubility	DMSO: 6.6 mg/mL (10.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5275 mL	7.6376 mL	15.2751 mL
5 mM	0.3055 mL	1.5275 mL	3.055 mL
10 mM	0.1528 mL	0.7638 mL	1.5275 mL
50 mM	0.0306 mL	0.1528 mL	0.3055 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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Kim S, et al. Silvestrol, a potential anticancer rocaglate derivative from Aglaia foveolata, induces apoptosis in LNCaP cells through the mitochondrial/apoptosome pathway without activation of executioner caspase-3 or -7. Anticancer Res. 2007 Jul-Aug;27(4B):2175-83.
Chen WL, et al. Silvestrol induces early autophagy and apoptosis in human melanoma cells. BMC Cancer. 2016 Jan 13;16:17.
Daker M, et al. Inhibition of nasopharyngeal carcinoma cell proliferation and synergism of CDDP with silvestrol and episilvestrol isolated from Aglaia stellatopilosa. Exp Ther Med. 2016 Jun;11(6):2117-2126.
Patton JT, et al. The translation inhibitor silvestrol exhibits direct anti-tumor activity while preserving innate and adaptive immunity against EBV-driven lymphoproliferative disease. Oncotarget. 2015 Feb 20;6(5):2693-708.
Wolfe AL, et al. RNA G-quadruplexes cause eIF4A-dependent oncogene translation in cancer. Nature. 2014 Sep 4; 513(7516):65-70.
Wiegering A, et al. Targeting Translation Initiation Bypasses Signaling Crosstalk Mechanisms That Maintain High MYC Levels in Colorectal Cancer. Cancer Discov. 2015 Jul;5(7):768-781.
Todt D, et al. The natural compound silvestrol inhibits hepatitis E virus (HEV) replication in vitro and in vivo. Antiviral Res. 2018 Sep;157:151-158.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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