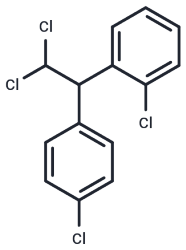
Data Sheet (Cat.No.T1199)

TargetMol

Mitotane

Chemical Properties



CAS No. : 53-19-0

Formula: C14H10Cl4

Molecular Weight: 320.04

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Mitotane (NCI-C04933) is a derivative of the insecticide DICHLORODIPHENYLDICHLOROETHANE that specifically inhibits cells of the adrenal cortex and their production of hormones. It is used to treat adrenocortical tumors and causes CNS damage, but no bone marrow depression.
Targets(IC50)	Apoptosis,AChR
In vitro	10-40 μM Mitotane inhibited basal and cAMP-induced cortisol secretion but did not cause cell death.Mitotane inhibited basal expression of StAR and P450scc proteins.40 μM Mitotane significantly reduced mRNA expression of StAR, CYP11A1 and CYP21.In H295R cells, the mRNA expression of StAR, CYP11A1 and CYP21 was significantly reduced by Mitotane. In H295R cells, Mitotane in combination with gemcitabine showed antagonistic effects and interfered with gemcitabine-mediated S-phase inhibition of the cell cycle.Mitotane inhibited the expression and secretion of thyroid stimulating hormone (TSH), blocked TSH response to thyrotropin-releasing hormone (THRH), decreased cell viability, and induced apoptosis in the mouse TalphaT1 cell line.Mitotane inhibited the expression and secretion of pituitary thyrotropin secretory hormone (PTHS) and induced apoptosis in the pituitary thyrotropin secretory hormone (PSH) cells. Mitotane induced adrenocortical necrosis, mitochondrial membrane damage, and irreversible binding of the protein CYP in pituitary thyrotropin-secreting mouse cells, without interfering with thyroid hormones, and directly reduced secretory activity and cell viability.
In vivo	10-40 μM Mitotane inhibited basal and cAMP-induced cortisol secretion but did not cause cell death.Mitotane inhibited basal expression of StAR and P450scc proteins.40 μM Mitotane significantly reduced mRNA expression of StAR, CYP11A1 and CYP21.In H295R cells, the mRNA expression of StAR, CYP11A1 and CYP21 was significantly reduced by Mitotane. In H295R cells, Mitotane in combination with gemcitabine showed antagonistic effects and interfered with gemcitabine-mediated S-phase inhibition of the cell cycle.Mitotane inhibited the expression and secretion of thyroid stimulating hormone (TSH), blocked TSH response to thyrotropin-releasing hormone (THRH), decreased cell viability, and induced apoptosis in the mouse TalphaT1 cell line.Mitotane inhibited the expression and secretion of pituitary thyrotropin secretory hormone (PTHS) and induced apoptosis in the pituitary thyrotropin secretory hormone (PSH) cells. Mitotane induced adrenocortical necrosis, mitochondrial membrane damage, and irreversible binding of the protein CYP in pituitary thyrotropin-secreting mouse cells, without interfering with thyroid hormones, and directly reduced secretory activity and

	cell viability.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 60 mg/mL (187.48 mM),Sonication is recommended. Ethanol: 60 mg/mL (187.48 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.1246 mL	15.623 mL	31.2461 mL
5 mM	0.6249 mL	3.1246 mL	6.2492 mL
10 mM	0.3125 mL	1.5623 mL	3.1246 mL
50 mM	0.0625 mL	0.3125 mL	0.6249 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.

Reference

Zatelli MC, et al. Endocrinology,2010, 151(6), 2453-2561.
Lin CW, et al. Toxicology,2012, 298(1-3), 14-23.
Germano A, et al. Mol Cell Endocrinol. 2014 Jan 25;382(1):1-7.
Martz F, et al. Res Commun Chem Pathol Pharmacol,1976, 13(1), 83-92.