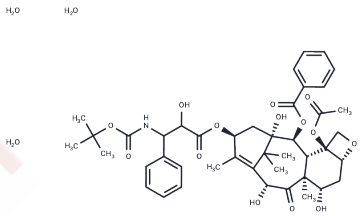
Data Sheet (Cat.No.T0186)

TargetMol

Docetaxel trihydrate

Chemical Properties



CAS No. : 148408-66-6

Formula: C43H59NO17

Molecular Weight: 861.95

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	Docetaxel trihydrate (RP-56976 Trihydrate) is an antineoplastic agent that has a unique mechanism of action as an inhibitor of cellular mitosis and that currently plays a central role in the therapy of many solid tumor including breast and lung cancer. Therapy with docetaxel has been associated with a low rate of serum enzyme elevations and rarely to instances of acute hepatic necrosis generally due to severe hypersensitivity reactions or sepsis.
Targets(IC50)	Apoptosis,Bcl-2 Family,Microtubule Associated
In vitro	Administering 33 mg/kg of Docetaxel every four days for three doses resulted in a 19.3-day growth delay in M2OL2 colorectal cancer xenografts. Docetaxel exhibited potent antitumor activity in MX-1, SK-MEL-2, LX-1, and OVCAR-3 xenograft models. Biweekly administration of Docetaxel over 14 days suppressed fibroblast growth factor 2-mediated angiogenesis with an IC50 of 5.4 mg/kg. A dose of 10 mg/kg Docetaxel completely inhibited angiogenesis in mice.
In vivo	Docetaxel inhibits the clonogenic survival of various human cancer cell lines including Hs746T (stomach), AGS (stomach), HeLa (cervical), CaSki (cervical), BxPC3 (pancreatic), and Capan-1 (pancreatic) with IC50 values of 1 nM for the stomach, and 0.3 nM for the others, respectively. Additionally, Docetaxel suppresses the chemotaxis of human umbilical vein endothelial cells stimulated by angiogenic factors, thymidine phosphorylase, or VEGF, with an IC50 of 10 pM. Moreover, Docetaxel induces the expression of Prostaglandin H Synthase-2 (PGHS-2) in human monocytes without affecting its expression in RAW 264.7 mouse macrophages.
Cell Research	2000 cells in 180 μL of medium are seeded in a 96-well plate, and 20 μL of drug solution is simultaneously added in triplicate to each well. The plate is incubated for 3 days at 37°C in a humidified atmosphere of 5% CO2. On day 3, 25 μL of MTT reagent is added to each well. After 4 h of incubation, the medium is removed by aspiration. 0.2 mL of dimethylsulphoxide (DMSO) is added to each well and thoroughly mixed by using a mechanical plate mixer to dissolve the resulting MTT-formazan crystals. Absorbance at 540 nm (OD) is measured by a reader. (Only for Reference)

Solubility Information

Solubility	Ethanol: 100 mg/mL (116.02 mM),Sonication is recommended. DMSO: 250 mg/mL (290.04 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (4.64 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	1.1602 mL	5.8008 mL	11.6016 mL
5 mM	0.232 mL	1.1602 mL	2.3203 mL
10 mM	0.116 mL	0.5801 mL	1.1602 mL
50 mM	0.0232 mL	0.116 mL	0.232 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

Buey RM. Chem Biol, 2004, 11(2), 225-236.
Riou JF, et al. Biochem Biophys Res Commun, 1992, 187(1), 164-170.
Balcer-Kubiczek EK, et al. Chemotherapy, 2006, 52(5), 231-240.
Silvestrini R, et al. Stem Cells, 1993, 11(6), 528-35.
Tanaka M, et al. Eur J Cancer. 1996, 32A(2), 226-330.