

Docetaxel (Trihydrate)

Catalog No: tcsc1597



Available Sizes

Size: 100mg

Size: 200mg



Specifications

CAS No:

148408-66-6

Formula:

$C_{43}H_{59}NO_{17}$

Pathway:

Cell Cycle/DNA Damage;Cytoskeleton

Target:

Microtubule/Tubulin;Microtubule/Tubulin

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

RP-56976 (Trihydrate)

Observed Molecular Weight:

861.93

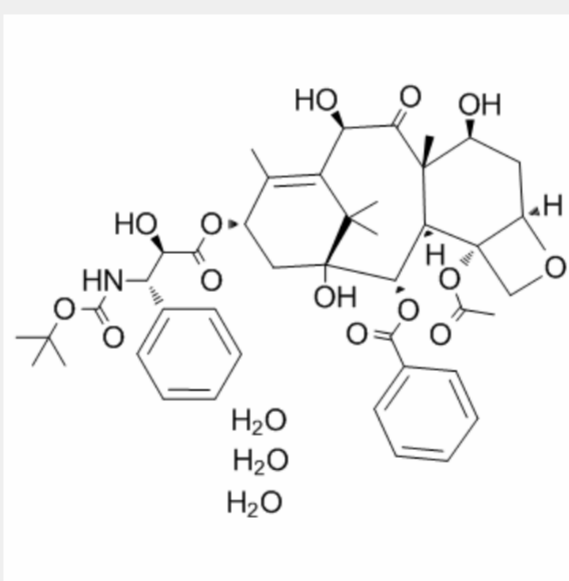
Product Description

Docetaxel Trihydrate is a semi-synthetic taxane analogue, acts as a **microtubule** stabilizer.

IC50 & Target: Microtubule^[1]

In Vitro: Docetaxel (DOC) and Glufosfamide (GLU) single and combined treatments affect the cells viability in a dose-dependent manner. The IC₅₀ of GLU are 70±4 μM and 86.8±8 μM in PC-3 and LNCaP cells; respectively. While, the IC₅₀ of Docetaxel alone is found to be 3.08±0.4 nM and 1.46±0.2 nM in PC-3 and LNCaP cells; respectively. The co-treatment of GLU with Docetaxel is found to synergize the cytotoxicity and the IC₅₀ values are decreased to be 2.7±0.1 nM and 0.75±0.3 nM in PC-3 and LNCaP cells; respectively^[1]. IC₅₀ of NCI-H460 to Docetaxel at 24 h is 116 nM and at 72 h is 30 nM. According to data reported in DTP Data Search, the mean IC₅₀ of NCI-60 cell panel to Docetaxel is 14-34 nM^[2].

In Vivo: In female mice, the Docetaxel-induced intestinal apoptosis in the 14-hours after light on (HALO) group is significantly greater than that in the 2-HALO group. Bax expression is significantly elevated by Docetaxel in the 2-HALO group, but not in the 14-HALO group. On the other hand, cleaved Caspase-3 expression is significantly elevated by Docetaxel in the 14-HALO group, but not in the 2-HALO group. The expressions of Wee1 and phosphorylated CKD1 are significantly elevated after dosing of Docetaxel at 14 HALO, but not at 2 HALO. In addition, Docetaxel significantly reduces survivin expression in the 14-HALO group but not in the 2-HALO group. The survivin expression level in the Docetaxel-treated 14-HALO group is significantly smaller than that in the drug-treated 2-HALO group^[3]. Piperine (PIP) is administrated via intravenous bolus at 3.5 mg/kg and via oral administration at 35 mg/kg and 3.5 mg/kg, while Docetaxel (DOX) is intravenously administrated at 7 mg/kg to Sprague-Dawley rats. The co-administrations of PIP at 35 mg/kg via oral administration and Docetaxel at 7 mg/kg via intravenous bolus administration in Sprague-Dawley rats. The combination use of PIP and Docetaxel results in a synergic increase of both their in vivo exposure^[4].



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