Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Docetaxel

Catalog No: tcsc1144

Available Sizes

Size: 100mg

Size: 200mg

Size: 500mg

Size: 1g

Size: 2g

Specifications

CAS No:
114977-28-5

Formula:
$C_{43}H_{53}NO_{14}$

Pathway:
Cell Cycle/DNA Damage;Cytoskeleton

Target:
Microtubule/Tubulin;Microtubule/Tubulin

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 35 mg/mL (43.32 mM)

Alternative Names:
RP-56976

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Observed Molecular Weight:
807.88

Product Description

Docetaxel is an antineoplastic drug by inhibiting **microtubule** depolymerization, and attenuating of the effects of **bcl-2** and **bcl-xL** gene expression.

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 IC_{50} of GLU are 70±4 μM and 86.8±8 μM in PC-3 and LNCaP cells; respectively. While, the IC_{50} 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 IC_{50} values are decreased to be 2.7±0.1 nM and 0.75±0.3 nM in PC-3 and LNCaP cells; respectively[1]. IC_{50} 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 IC_{50} 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-Daley 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].