

# 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 :  $\geq 35$  mg/mL (43.32 mM)

**Alternative Names:**

RP-56976

**Observed Molecular Weight:**  
807.88

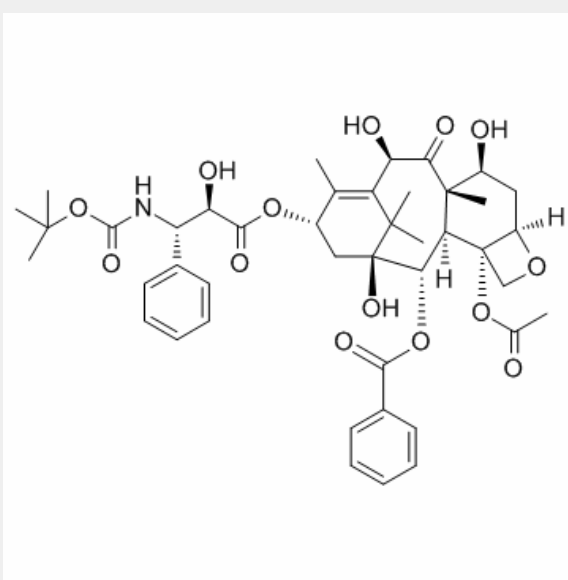
## Product Description

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

IC<sub>50</sub> & Target: Microtubule<sup>[1]</sup>

**In Vitro:** Docetaxel (DOC) and Glufosfamide (GLU) single and combined treatments affect the cells viability in a dose-dependent manner. The IC<sub>50</sub> of GLU are 70±4 μM and 86.8±8 μM in PC-3 and LNCaP cells; respectively. While, the IC<sub>50</sub> 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<sub>50</sub> values are decreased to be 2.7±0.1 nM and 0.75±0.3 nM in PC-3 and LNCaP cells; respectively<sup>[1]</sup>. IC<sub>50</sub> 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<sub>50</sub> of NCI-60 cell panel to Docetaxel is 14-34 nM<sup>[2]</sup>.

**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<sup>[3]</sup>. 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<sup>[4]</sup>.



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