

# Camptothecin

Catalog No: tcsc1049



## Available Sizes

**Size:** 100mg

**Size:** 500mg



## Specifications

**CAS No:**

7689-03-4

**Formula:**

$C_{20}H_{16}N_2O_4$

**Pathway:**

Antibody-drug Conjugate/ADC Related; Anti-infection;Apoptosis; Cell Cycle/DNA Damage; Epigenetics

**Target:**

ADC Cytotoxin; Antibiotic; Apoptosis; Fungal; Influenza Virus;MicroRNA; Topoisomerase

**Purity / Grade:**

99.58%

**Solubility:**

DMSO : 6.25 mg/mL (17.94 mM; Need ultrasonic)

**Storage Instruction:**

2-8°C, protect from light

**Alternative Names:**

Camptothecin; (S)-(+)-Camptothecin; CPT

**Observed Molecular Weight:**

348.35

## References

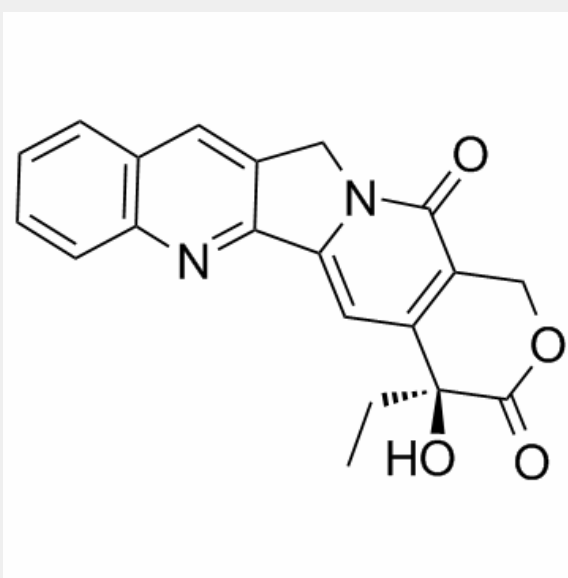
[1]. Luzzio MJ, et al. Synthesis and antitumor activity of novel water soluble derivatives of camptothecin as specific inhibitors of topoisomerase I. Synthesis and antitumor activity of novel water soluble derivatives of camptothecin as specific inhibitors of topoisomerase I. [2]. Bertozzi D, et al. The natural inhibitor of DNA topoisomerase I, camptothecin, modulates HIF-1 $\alpha$  activity by changing miR expression patterns in human cancer cells. Mol Cancer Ther. 2014;13(1):239-248. [3]. Schön M, et al. KINK-1, a novel small-molecule inhibitor of IKK $\beta$ , and the susceptibility of melanoma cells to antitumoral treatment. J Natl Cancer Inst. 2008;100(12):862-875..

## Product Description

Camptothecin is a potent DNA enzyme **topoisomerase I** inhibitor, with an **IC<sub>50</sub>** of 679 nM.

IC50 & Target: IC50: 679 nM (topoisomerase I)<sup>[3]</sup>

**In Vitro:** [<sup>3</sup>H]BrCPT labeling of topoisomerase I is enhanced greatly by the presence of DNA; very little labeling of isolated topoisomerase I or isolated DNA occurs. Even in the presence of DNA, [<sup>3</sup>H]BrCPT labeling of topoisomerase I is inhibited by camptothecin, suggesting that both CPT and BrCPT bind to the same site on the DNA-topoisomerase I binary complex<sup>[1]</sup>. With increasing concentrations of camptothecin, closed circular pRR322 DNA (form I) is converted to nicked circular DNA (form II). This apparent nicking activity of camptothecin required DNA topoisomerase I<sup>[2]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!