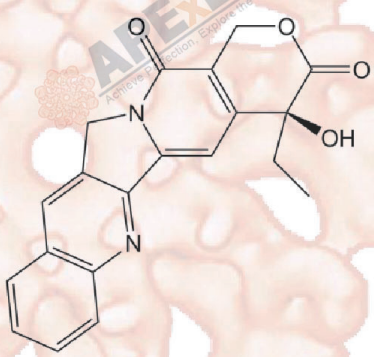
Product Data Sheet

Camptothecin



Cat. No.:	A2877
CAS No.:	7689-03-4
Formula:	C20H16N2O4
M.Wt:	348.35
Synonyms:	
Target:	DNA Damage/DNA Repair
Pathway:	Topoisomerase
Storage:	Store at -20°C

Solvent & Solubility

In Vitro

≥8.7mg/mL in DMSO

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1mg	5mg	10mg
1 mM	2.8707 mL	14.3534 mL	28.7068 mL
5 mM	0.5741 mL	2.8707 mL	5.7414 mL
10 mM	0.2871 mL	1.4353 mL	2.8707 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Topoisomerase I inhibitor,prototypic
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	HCT116 and RKO colorectal cancer (CRC) cells
Preparation method：	Limited solubility in DMSO. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	20 and 50 nM; 72 hrs
Applications:	The low doses of Camptothecin for HCT116 and RKO CRC cells were 20 nM and 50 nM, respectively, both of which induced the least detectable cell death.

		Low-dose Camptothecin induced autophagy via AMPK-TSC2-mTOR pathway and premature senescence by ATM-Chk2-p53-p21 pathway.
In Vivo	**Animal experiment**	
	Animal models:	Nude mice bearing xenografts of CASE, SW48, DOY, SPA, and CLO cells
	Dosage form:	0 ~ 8 mg/kg; i.m. or i.v.; twice a week
	Applications:	In mice xenografts of various tumors, including colon, lung, breast, stomach and ovary tumors, Camptothecin treatment (8 mg/kg) exhibited complete growth inhibition and regression.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Nanda Kumar Sasi, Flavie Coquel, et al. "DDK has a primary role in processing stalled replication forks to initiate downstream checkpoint signaling." bioRxiv. 2017.October 21.

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References

[1]. Luzzio MJ, Besterman JM, Emerson DL, Evans MG, Lackey K, Leitner PL, McIntyre G, Morton B, Myers PL, Peel M, et al. Synthesis and antitumor activity of novel water soluble derivatives of camptothecin as specific inhibitors of topoisomerase I. J Med Chem. 1995 Feb 3;38(3):395-401.

[2]. Zhang JW, Zhang SS, Song JR, Sun K, Zong C, Zhao QD, Liu WT, Li R, Wu MC, Wei LX. Autophagy inhibition switches low-dose camptothecin-induced premature senescence to apoptosis in human colorectal cancer cells. Biochem Pharmacol. 2014 May 22. pii: S0006-2952(14)00286-X.

[3] Giovanella BC, Hinz HR, Kozielski AJ, Stehlin JS Jr, Silber R, Potmesil M. Complete growth inhibition of human cancer xenografts in nude mice by treatment with 20-(S)-camptothecin. Cancer Res. 1991 Jun 1;51(11):3052-5.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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