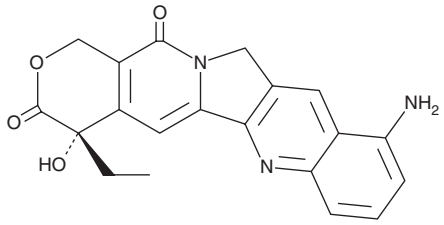
PRODUCT INFORMATION

9-amino Camptothecin

Item No. 17232

CAS Registry No.:	91421-43-1
Formal Name:	(4S)-10-amino-4-ethyl-4-hydroxy-1H-pyrano[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H,12H)-dione
Synonym:	NSC 603071
MF:	$C_{20}H_{17}N_3O_4$
FW:	363.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 224, 263, 336, 370 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

9-amino Camptothecin is supplied as a crystalline solid. A stock solution may be made by dissolving the 9-amino camptothecin in the solvent of choice, which should be purged with an inert gas. 9-amino Camptothecin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 9-amino camptothecin in these solvents is approximately 1 mg/ml.

9-amino Camptothecin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 9-amino camptothecin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 9-amino Camptothecin has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

DNA topoisomerases relax supercoiled DNA during replication, transcription, recombination, repair, and chromosome condensation. The relaxation of DNA supercoiling by topoisomerase I at single-strand breaks represents a target for anticancer agents to intercalate between DNA base pairs, leading to the activation of apoptotic and cell cycle arrest pathways.[1] 9-amino Camptothecin is a topoisomerase I inhibitor that was developed as a more water-soluble analog of camptothecin (Item No. 11694).[2,3] It is cytotoxic to HT-29 cells at an IC_{50} value of 19 nM, induces DNA damage in whole cells at a concentration of 85 nM, and demonstrates significant anti-tumor activity in clinical studies.[2,3]

References

1. Drwal, M.N., Agama, K., Wakelin, L.P.G., *et al.* Exploring DNA topoisomerase I ligand space in search of novel anticancer agents. *PLoS One* **6(9)**, 1-12 (2011).
2. Rothenberg, M.L. Topoisomerase I inhibitors: Review and update. *Ann. Oncol.* **8(9)**, 837-855 (1997).
3. Dancey, J. and Eisenhauer, E.A. Current perspectives on camptothecins in cancer treatment. *Br. J. Cancer* **74(3)**, 327-338 (1996).

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