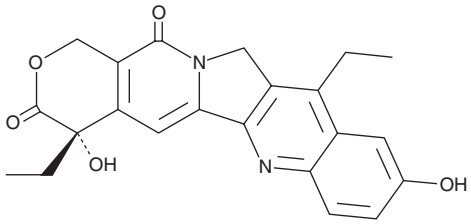
PRODUCT INFORMATION

SN-38

Item No. 15632

CAS Registry No.:	86639-52-3
Formal Name:	4,11-diethyl-4,9-dihydroxy-(4S)-1H-pyrano[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H,12H)-dione
Synonyms:	7-Ethyl-10-Hydroxycamptothecin, 7-ethyl-10-hydroxy-20(S)-Camptothecin, NK 012
MF:	$C_{22}H_{20}N_2O_5$
FW:	392.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 224, 267, 331, 368, 383 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

SN-38 is supplied as a crystalline solid. A stock solution may be made by dissolving the SN-38 in the solvent of choice. SN-38 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of SN-38 in these solvents is approximately 2 and 0.1 mg/ml, respectively.

SN-38 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SN-38 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. SN-38 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

SN-38 is the active metabolite of irinotecan (Item No. 14180), a derivative of the alkaloid camptothecin (Item No. 11694), and acts as a potent inhibitor of DNA topoisomerase I.[1,2] It is formed by the hydrolysis of irinotecan by carboxylesterases and metabolized through glucuronidation by UDP glucuronosyl transferase 1A1.[3,4] SN-38 is a more potent topopisomerase I inhibitor and more cytotoxic to HT-29 colon cancer cells (IC_{50} = 8.8 nM) compared to irinotecan (IC_{50} > 100 nM).[1,2]

References

1. Rothenberg, M.L. Topoisomerase I inhibitors: Review and update. *Ann. Oncol.* **8(9)**, 837-855 (1997).
2. Dancey, J. and Eisenhauer, E.A. Current perspectives on camptothecins in cancer treatment. *Br. J. Cancer* **74**, 327-338 (1996).
3. Mathijssen, R.H.J., van Alphen, R.J., Verweij, J., *et al.* Clinical pharmacokinetics and metabolism of irinotecan (CPT-11). *Clin. Cancer Res.* **7**, 2182-2194 (2001).
4. Ma, M.K. and McLeod, H.L. Lessons learned from the irinotecan metabolic pathway. *Curr. Med. Chem.* **10(1)**, 41-49 (2003).

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