

# 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

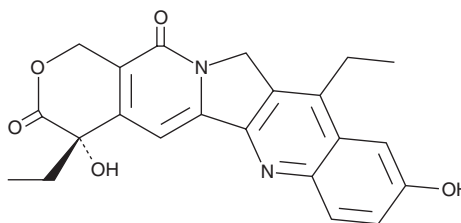
Purity:  $\geq 98\%$

UV/Vis.:  $\lambda_{max}$ : 224, 267, 331, 368, 383 nm

Supplied as: A crystalline solid

Storage:  $-20^\circ\text{C}$

Stability:  $\geq 2$  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.<sup>1,2</sup> It is formed by the hydrolysis of irinotecan by carboxylesterases and metabolized through glucuronidation by UDP glucuronosyl transferase 1A1.<sup>3,4</sup> SN-38 is a more potent topoisomerase I inhibitor and more cytotoxic to HT-29 colon cancer cells ( $IC_{50} = 8.8$  nM) compared to irinotecan ( $IC_{50} > 100$  nM).<sup>1,2</sup>

### 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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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