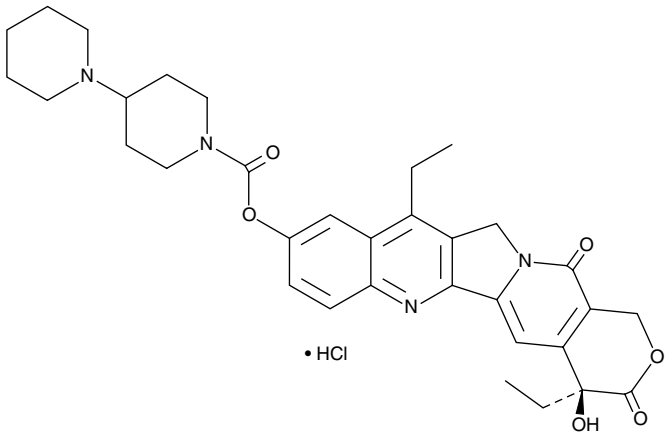
Product Information

Irinotecan (hydrochloride)

Item No. 14180

CAS Registry No.: 100286-90-6
Formal Name: (4S)-4,11-diethyl-3,4,12,14-tetrahydro-4-hydroxy-3,14-dioxo-1H-pyrano[3',4':6,7]indolizino[1,2-b]quinolin-9-yl ester, [1,4'-bipiperidine]-1'-carboxylic acid, monohydrochloride
Synonyms: Camptothecin 11, CPT11, Topotecin, U 101440E
MF: $C_{33}H_{38}N_4O_6 \bullet HCl$
FW: 623.1
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 221, 356, 360 nm



Laboratory Procedures

For long term storage, we suggest that irinotecan (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

Irinotecan (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the irinotecan (hydrochloride) in the solvent of choice. Irinotecan (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of irinotecan (hydrochloride) in these solvents is approximately 20 mg/ml.

Irinotecan (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, irinotecan (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Irinotecan (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Irinotecan, a derivative of the alkaloid camptothecin (Item No. 11694), functions as a prodrug that is converted by tissue carboxylesterase to 7-ethyl-10-hydroxycamptothecin, a potent inhibitor of DNA topoisomerase I.[1,2] Its action is terminated by glucuronidation by UDP glucuronosyl transferase 1A1.[3,4] Irinotecan demonstrates a broad spectrum of antitumor activity against metastatic colorectal cancer, small cell lung cancer, and several other solid tumors and has proven useful in radiation treatment of tumors by sensitizing tissue to radiation damage.[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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