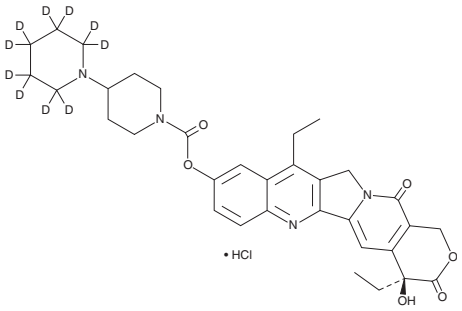
PRODUCT INFORMATION

Irinotecan-d_{10} (hydrochloride)

Item No. 22566

CAS Registry No.: 718612-62-5
Formal Name: (4S)-4,11-diethyl-4-hydroxy-3,14-dioxo-3,4,12,14-tetrahydro-1H-pyrano[3',4':6,7]indolizino[1,2-b]quinolin-9-yl [1,4'-bipiperidine]-1'-carboxylate-2,2,3,3,4,4,5,5,6,6-d_{10}, monohydrochloride
Synonyms: Camptothecin 11-d_{10}, CPT 11-d_{10}, Topotecin-d_{10}, U 101440E-d_{10}
MF: $C_{33}H_{28}D_{10}N_4O_6 \bullet HCl$
FW: 633.2
Chemical Purity: ≥95% Irinotecan (hydrochloride)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_{10}); ≤1% d_0
Supplied as: A 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

Irinotecan-d_{10} (hydrochloride) is intended for use as an internal standard for the quantification of irinotecan (Item No. 14180) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Irinotecan-d_{10} (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the irinotecan-d_{10} (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Irinotecan-d_{10} (hydrochloride) is soluble in methanol and DMSO.

Description

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] Formulations containing irinotecan demonstrate broad spectrum antitumor activity against metastatic colorectal cancer, small cell lung cancer, and several other solid tumors and have 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. *Annals of Oncology* **8(9)**, 837-855 (1997).
2. Dancey, J., and Eisenhauer, E.A. Current perspectives on camptothecins in cancer treatment. *Br. J. Cancer* **74(3)**, 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(8)**, 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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