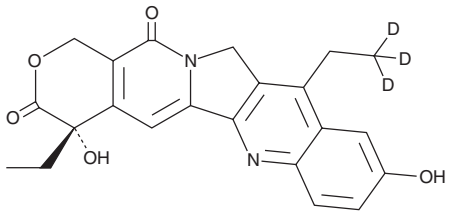
PRODUCT INFORMATION

SN-38-d_3

Item No. 40133

CAS Registry No.:	718612-49-8
Formal Name:	4-ethyl-11-(ethyl-2,2,2-d_3)-4,9-dihydroxy-1H-pyrano[3′,4′:6,7]indolizino[1,2-b]quinoline-3,14(4H,12H)-dione
Synonyms:	7-Ethyl-10-Hydroxycamptothecin-d_3, 7-ethyl-10-hydroxy-20(S)-Camptothecin-d_3
MF:	$C_{22}H_{17}D_3N_2O_5$
FW:	395.4
Chemical Purity:	≥95% (SN-38)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤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

SN-38-d_3 is intended for use as an internal standard for the quantification of SN-38 (Item No. 15632) 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).

SN-38-d_3 is supplied as a solid. A stock solution may be made by dissolving the SN-38-d_3 in the solvent of choice, which should be purged with an inert gas. SN-38-d_3 is slightly soluble in DMSO and methanol.

Description

SN-38 is an inhibitor of topoisomerase I and an active metabolite of the prodrug irinotecan (Item No. 14180).[1,2] It is formed from irinotecan by carboxylesterases.[1] SN-38 (0.1, 1, and 10 µM) induces topoisomerase I-dependent DNA cleavage in a cell-free assay.[2] It induces DNA single-strand breaks in HT-29 colorectal adenocarcinoma cells when used at a concentration of 200 nM and cytotoxicity in HT-29 cells (IC_{50} = 8.8 nM). SN-38 (100 mg/kg per day) reduces tumor volume without affecting body weight in an MX-1 breast cancer mouse xenograft model.[3]

References

1. Ma, M.K. and McLeod, H.L. Lessons learned from the irinotecan metabolic pathway. *Curr. Med. Chem.* **10(1)**, 41-49 (2003).
2. Tanizawa, A., Fujimori, A., Fujimori, Y., *et al*. Comparison of topoisomerase I inhibition, DNA damage, and cytotoxicity of camptothecin derivatives presently in clinical trials. *J. Natl. Cancer Inst.* **86(11)**, 836-842 (1994).
3. Kawato, Y., Furuta, T., Aonuma, M., *et al*. Antitumor activity of a camptothecin derivative, CPT-11, against human tumor xenografts in nude mice. *Cancer Chemother. Pharmacol.* **28(3)**, 192-198 (1991).

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