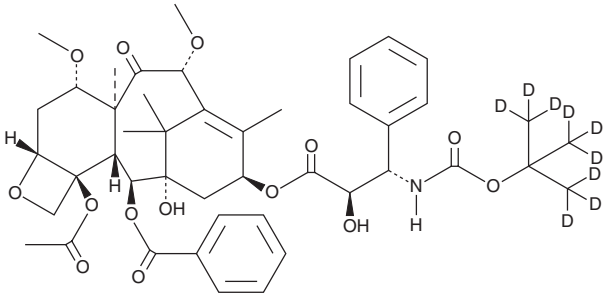
PRODUCT INFORMATION

Cabazitaxel-d_9

Item No. 28488

CAS Registry No.: 1383572-19-7
Formal Name: (αR,βS)-β-[[[1,1-di(methyl-d_3)ethoxy-2,2,2-d_3] carbonyl]amino]-α-hydroxy-benzenepropanoic acid, (2aR,4S,4aS,6R,9S,11S,12S,12aR, 12bS)-12b-(acetyloxy)-12-(benzoyloxy)-2a,3,4,4a,5,6,9,10,11,12,12a,12b-dodecahydro-11-hydroxy-4,6-dimethoxy-4a,8,13,13-tetramethyl-5-oxo-7,11-methano-1H-cyclodeca[3,4]benz[1,2-b] oxet-9-yl ester
MF: $C_{45}H_{48}D_9NO_{14}$
FW: 845.0
Chemical Purity: ≥95% (Cabazitaxel)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_9); ≤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

Cabazitaxel-d_9 is intended for use as an internal standard for the quantification of cabazitaxel (Item No. 22262) 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).

Cabazitaxel-d_9 is supplied as a solid. A stock solution may be made by dissolving the cabazitaxel-d_9 in the solvent of choice, which should be purged with an inert gas. Cabazitaxel-d_9 is soluble in organic solvents such as methanol and DMSO.

Description

Cabazitaxel is a second generation semisynthetic taxane derived from 10-deacetylbaccatin III (Item No. 22261).[1] It stabilizes microtubule assembly by reducing lag time for tubulin assembly (LT_{50} = 100 nM) and the rate of cold-induced microtubule depolymerization (IC_{50}s = 100-250 nM) *in vitro*. Cabazitaxel inhibits proliferation of P388, HL-60, Calc18, and KB cells (IC_{50}s = 4-41 nM), as well as P-glycoprotein-expressing, drug-resistant versions of these cell lines (IC_{50}s = 16-414 nM). *In vivo*, cabazitaxel dose-dependently reduces tumor growth in docetaxel-susceptible N87 human gastric carcinoma and docetaxel-resistant UISO BCA-1 breast cancer mouse xenograft models. Formulations containing cabazitaxel have been used in combination with prednisone in the treatment of hormone-refractory metastatic prostate cancer.

Reference

1. Vrignaud, P., Sémiond, D., Lejeune, P., *et al.* Preclinical antitumor activity of cabazitaxel, a semisynthetic taxane active in taxane-resistant tumors. *Clin. Cancer Res.* **19(11)**, 2973-2983 (2013).

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