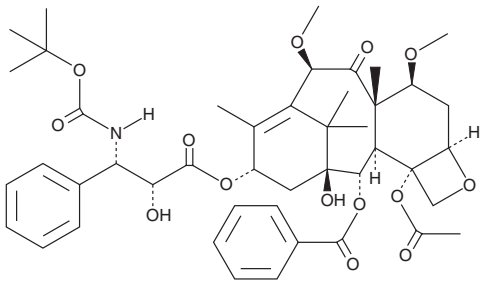
PRODUCT INFORMATION

Cabazitaxel

Item No. 22262

CAS Registry No.: 183133-96-2
Formal Name: β-[[(1,1-dimethylethoxy)carbonyl]amino]-α-hydroxy-benzenepropanoic acid, (αR,βS)-(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: $C_{45}H_{57}NO_{14}$
FW: 835.9
Purity: ≥98%
UV/Vis.: λ_{max}: 229 nm
Supplied as: A crystalline 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 is supplied as a crystalline solid. A stock solution may be made by dissolving the cabazitaxel in the solvent of choice. Cabazitaxel is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of cabazitaxel in ethanol is approximately 1.5 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Cabazitaxel is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, cabazitaxel should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Cabazitaxel has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

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. Clin. Cancer Res.* **19(11)**, 2973-2983 (2013).

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