



Product Specification Sheet

Product Name: Docetaxel (Taxotere)

Catalog Number: C3623

Technical information:

Chemical Formula: $C_{43}H_{53}NO_{14}$

CAS #: 148408-66-6

Molecular Weight: 807.88

Purity: > 98%

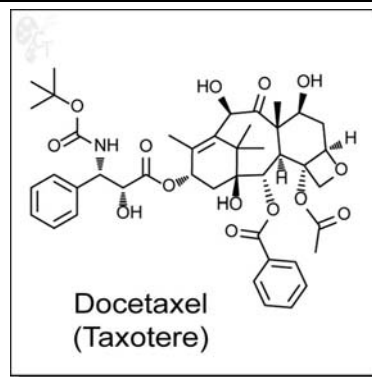
Appearance: white solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: (2aR,4S,4aS,6R,9S,11S,12S,12aR,12bS)-12b-acetoxy-9-(((2R,3S)-3-((tert-butoxycarbonyl)amino)-2-hydroxy-3-phenylpropanoyl)oxy)-4,6,11-trihydroxy-4a,8,13,13-tetramethyl-5-oxo-2a,3,4,4a,5,6,9,10,11,12,12a,12b-dodecahydro-1H-7,11-methanocyclodeca[3,4]benzo[1,2-b]oxet-12-yl benzoate

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



- Handling:**
- To make 10 mM stock solution, add 0.124 mL of DMSO for each mg of Docetaxel (Taxotere).
 - For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity: Docetaxel, a semisynthetic analog of paclitaxel binds and stabilizes tubulin, thus preventing microtubule disassembly, resulting in cell-cycle arrest at the G2/M phase and inducing apoptosis. Docetaxel is known to inhibit the anti-apoptotic gene Bcl2 and induces the expression of cell cycle inhibitor p27. (1)

In in vitro tubule formation assays, taxotere has an IC50 in the low nanomolar range. HUVEC migration assays were more sensitive, with IC50s in the picomolar range in a chemokinetic assay. Furthermore, HUVEC chemotaxis stimulated by either thymidine phosphorylase or vascular endothelial growth factor, was inhibited by Taxotere in the double-digit picomolar range. (2)

Docetaxel has been studied extensively in combination with traditional anti-cancer agents (e.g. gemcitabine) and more recently with newer generation agents such as cisplatin/5-fluorouracil (DCF), everolimus, sunitinib, and antibody therapies. (1, 3)

- Reference:**
1. Nishiyama et al., Docetaxel: its role in current and future treatments for advanced gastric cancer. *Gastric Cancer* 2009, 12, 132-141. Pubmed ID: 19890692
 2. Hotchkiss et al., Inhibition of Endothelial Cell Function in Vitro and Angiogenesis in Vivo by Docetaxel (Taxotere): Association with Impaired Repositioning of the Microtubule Organizing Center. *Mol Cancer Ther.* 2002, 1, 1191-1200. Pubmed ID: 12479700
 3. Fauzee et al., Taxanes: Promising Anti-Cancer Drugs. *Asian Pacific J. Cancer Prev.* 2011, 12, 837-851. Pubmed ID: 21790213

To reorder: <http://www.cellagentech.com/Docetaxel-Taxotere/>

For Technical Support: technical@cellagentech.com

Chemicals are sold for research use only, not for clinical or diagnostic use.