

# PRODUCT INFORMATION



## Docetaxel (hydrate)

Item No. 11637

**CAS Registry No.:** 700367-34-6  
**Formal Name:** ( $\alpha$ R, $\beta$ S)- $\beta$ -[[[(1,1-dimethylethoxy)carbonyl]amino]- $\alpha$ -hydroxy-benzenepropanoic acid, 12b-(acetyloxy)-12-(benzoyloxy)-2aR,3,4S,4aS,5,6R,9S,10,11S,12S,12aR,12bS-dodecahydro-4,6,11-trihydroxy-4a,8,13,13-tetramethyl-5-oxo-7,11-methano-1H-cyclodeca[3,4]benz[1,2-b]oxet-9-yl ester, hydrate

**Synonyms:** DTX, NSC 628503, RP 56976, Taxotel

**MF:** C<sub>43</sub>H<sub>53</sub>NO<sub>14</sub> • XH<sub>2</sub>O

**FW:** 807.9

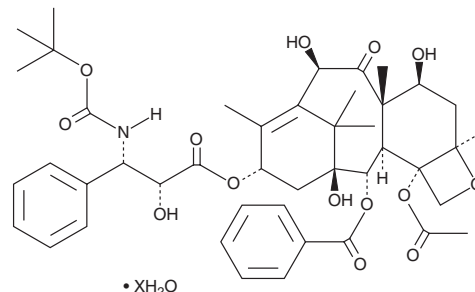
**Purity:**  $\geq$ 98%

**UV/Vis.:**  $\lambda_{\max}$ : 229 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:**  $\geq$ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Docetaxel (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the docetaxel (hydrate) in the solvent of choice, which should be purged with an inert gas. Docetaxel (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of docetaxel (hydrate) in ethanol is approximately 1.5 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Docetaxel (hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, docetaxel (hydrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Docetaxel (hydrate) 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

Docetaxel is a microtubule-stabilizing agent and a semisynthetic derivative of paclitaxel (Item No. 10461).<sup>1</sup> It promotes microtubule assembly in a cell-free assay when used at a concentration of 20  $\mu$ M and is cytotoxic to J774.2 cells ( $EC_{50}$  = 0.05  $\mu$ M).<sup>2</sup> *In vivo*, docetaxel inhibits tumor growth in several cancer models, including B16 murine melanoma and P388 murine leukemia models.<sup>1</sup> Formulations containing docetaxel have been used in the treatment of head and neck, breast, and non-small cell lung cancer, gastric adenocarcinoma, and castration-resistant prostate cancer.

### References

1. Bissery, M.-C., Guenard, D., Gueritte-Voegelein, F., *et al.* Experimental antitumor activity of taxotere (RP 56976, NSC 628503), a taxol analogue. *Cancer Res.* **51**(18), 4845-4852 (1991).
2. Swindell, C.S., Heerding, J.M., Krauss, N.E., *et al.* Characterization of the taxol structure-activity profile for the locus of the A-ring side chain. *Bioorg. Med. Chem. Lett.* **4**(12), 1531-1536 (1994).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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