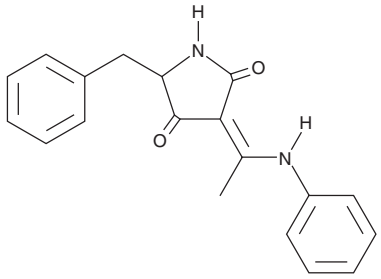
PRODUCT INFORMATION

TN-16

Item No. 21222

CAS Registry No.:	33016-12-5
Formal Name:	3-[1-(phenylamino)ethylidene]-5-(phenylmethyl)-2,4-pyrrolidinedione
Synonym:	NSC 239274
MF:	$C_{19}H_{18}N_2O_2$
FW:	306.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 234, 319 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

TN-16 is supplied as a crystalline solid. A stock solution may be made by dissolving the TN-16 in the solvent of choice, which should be purged with an inert gas. TN-16 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of TN-16 in these solvents is approximately 0.25, 20, and 12.5 mg/ml, respectively.

TN-16 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TN-16 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. TN-16 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

TN-16 is an inhibitor of microtubule polymerization (IC_{50} = 0.4-1.7 µM).[1] It blocks taxol-induced assembly of tubulin (IC_{50} = 6 µM) and blocks colchicine (Item No. 9000760) binding to tubulin.[1] Like colchicine, TN-16 inhibits alkylation of tubulin.[2] TN-16 induces metaphase arrest in renal cell carcinoma cells.[3] TN-16 can be used in combination with other inhibitors to enhance the efficiency of human artificial chromosome transfer to recipient cells.[4]

References

1. Arai, T. Inhibition of microtubule assembly *in vitro* by TN-16, a synthetic antitumor drug. *FEBS Lett.* **155(2)**, 273-276 (1983).
2. Roach, M.C. and Luduena, R.F. The effect of TN-16 on the alkylation of tubulin. *Biochem. Biophys. Res. Commun.* **129(1)**, 200-205 (1985).
3. Nakamura, M., Kanda, S., Kawamura, M., *et al*. Effects of low concentration of vinblastine on the anchorage-independent growth and *in vitro* invasion of human renal carcinoma cell lines. *Cancer Lett.* **69(2)**, 85-91 (1993).
4. Liskovykh, M., Lee, N.C.O., Larinov, V., *et al*. Moving toward a higher efficiency of microcell-mediated chromosome transfer. *Mol. Ther. Methods Clin. Dev.* **3**, 16043 (2016).

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