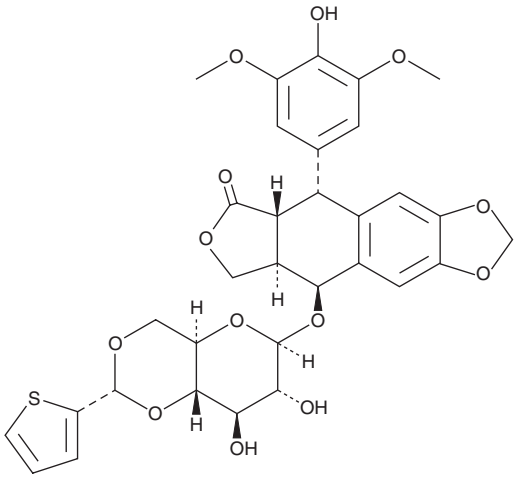
PRODUCT INFORMATION

Teniposide

Item No. 14425



CAS Registry No.:	29767-20-2
Formal Name:	(5R,5aR,8aR,9S)-5,8,8a,9-tetrahydro-5-(4-hydroxy-3,5-dimethoxyphenyl)-9-[[4,6-O-[(R)-2-thienylmethylene]-β-D-glucopyranosyl]oxy]-furo[3',4':6,7]naphtho[2,3-d]-1,3-dioxol-6(5aH)-one
Synonyms:	NSC 122819, VM-26
MF:	$C_{32}H_{32}O_{13}S$
FW:	656.7
Purity:	≥95%
UV/Vis.:	λ_{max}: 284 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

Teniposide is supplied as a crystalline solid. A stock solution may be made by dissolving the teniposide in the solvent of choice, which should be purged with an inert gas. Teniposide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of teniposide in these solvents is approximately 5 mg/ml.

Teniposide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, teniposide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Teniposide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Teniposide is a topoisomerase II poison.[1-4] It promotes calf thymus topoisomerase II-mediated DNA cleavage when used at concentrations ranging from 0.04 to 40 µg/ml.[1] Teniposide induces single- and double-stranded DNA breaks in a concentration-dependent manner.[2] It inhibits the proliferation of A549 lung cancer cells (IC_{50} = 0.7 µM). Teniposide induces cell cycle arrest at the S phase and apoptosis in Tca8113 tongue squamous cell carcinoma cells when used at a concentration of 5 mg/L and induces cell cycle arrest at the G_2/M phase when used at 0.15 mg/L.[3] It reduces tumor growth and inhibits metastasis in a 3LL murine Lewis lung carcinoma model when administered at a dose of 6.5 mg/kg.[4] Formulations containing teniposide have been used in combination therapy in the treatment of refractory childhood acute lymphoblastic leukemia.

References

1. Ross, W., Rowe, T., Glisson, B., *et al.* Role of topoisomerase II in mediating epipodophyllotoxin-induced DNA cleavage. *Cancer Res.* **44(12 Pt. 1)**, 5857-5860 (1984).
2. Long, B.H., Musial, S.T., and Brattain, M.G. Single- and double-strand DNA breakage and repair in human lung adenocarcinoma cells exposed to etoposide and teniposide. *Cancer Res.* **45(7)**, 3106-3112 (1985).
3. Li, J., Chen, W., Zhang, P., *et al.* Topoisomerase II trapping agent teniposide induces apoptosis and G2/M or S phase arrest of oral squamous cell carcinoma. *World J. Surg. Oncol.* **4(1)**, 41 (2006).
4. Colombo, T., Broggini, M., Vaghi, M., *et al.* Comparison between VP 16 and VM 26 in Lewis lung carcinoma of the mouse. *Eur. J. Cancer Clin. Oncol.* **22(2)**, 173-179 (1986).

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.

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