

Etoposide

✓ 5.9 mg

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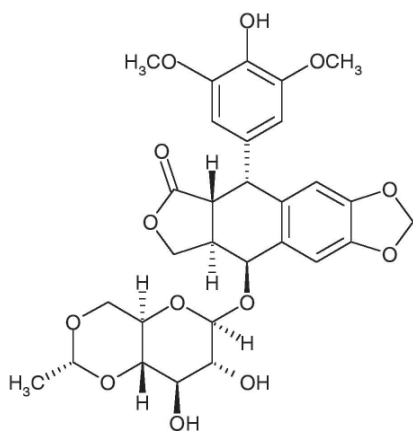
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rev. 03/15/18

For Research Use Only. Not For Use In Diagnostic Procedures.

Background: An anti-tumor agent that is commonly used as an apoptosis inducer, etoposide (VP-16) is a topoisomerase II inhibitor with an IC_{50} of 59.2 μ M (1). Etoposide stabilizes a covalent topoisomerase II-cleaved DNA intermediate complex in the catalytic cycle of the enzyme, leading to genomic instability and cell death (2,3). This mechanism of action has been shown to delay progression of the cell cycle through the late S and early G2 phase (4,5).

Molecular Formula: $C_{29}H_{32}O_{13}$



Molecular Weight: 588.56 g/mol

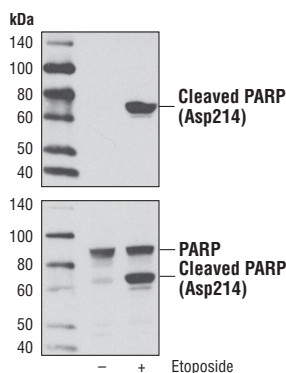
Solubility: Soluble in DMSO at 100 mg/ml; very poorly soluble in ethanol and water with maximum solubility in water ~20-50 μ M.

Purity: >98%.

Directions for Use: Etoposide is supplied as a lyophilized powder. For a 50 mM stock, reconstitute the 5.9 mg in 200 μ l DMSO. Working concentrations and length of treatments vary depending on the desired effect, but it is typically used at 5-50 μ M for 4-24 hr.

Background References:

- (1) Terada, T. et al. (1993) *J Med Chem* 36, 1689-99.
- (2) Baldwin, E.L. and Osheroff, N. (2005) *Curr Med Chem Anticancer Agents* 5, 363-72.
- (3) Li, T.K. and Liu, L.F. (2001) *Annu Rev Pharmacol Toxicol* 41, 53-77.
- (4) Dotega, A. (1998) *Postepy Hig Med Dosw* 52, 67-87.
- (5) Smith, P.J. et al. (1994) *Br J Cancer* 70, 914-21.



Western blot analysis of extracts from Jurkat cells, untreated (-) or etoposide-treated (25 μ M, overnight; +), using Cleaved PARP (Asp214) (D64E10) XP® Rabbit mAb #5625 (upper) or total PARP Antibody #9542 (lower).

Storage: Store lyophilized or in solution at -20°C, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.