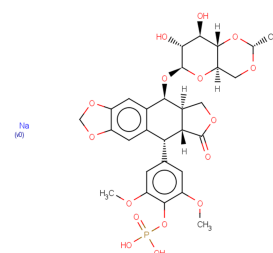


Etoposide phosphate disodium

Chemical Properties

CAS No. :	122405-33-8
Formula:	C ₂₉ H ₃₃ NaO ₁₆ P
Molecular Weight:	691.531
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Etoposide phosphate disodium (BMJ-40481 disodium), a phosphate ester prodrug of etoposide, functions as a potent chemotherapeutic agent by selectively inhibiting topoisomerase II, hindering the re-ligation of DNA strands. It is regarded as the active equivalent of etoposide, effectively inducing cell cycle arrest, apoptosis, and autophagy in cancer cells.
In vitro	Etoposide phosphate disodium, a water-soluble derivative and likely prodrug of etoposide, is distinguished by a phosphate group at position 4' on the E ring of the etoposide molecule[1]. It demonstrates dose-dependent inhibition of HCT116 FBXW7 +/+, FBXW7 -/-, and p53 -/- cells, with IC ₅₀ values being 0.945 μM, 0.375 μM, and 1.437 μM respectively, when administered at concentrations ranging from 0-1 μM over 72 hours[2]. At a concentration of 25 μM for 6 hours, etoposide phosphate disodium delays the recovery of p53 in cells deficient in FBXW7, where FBXW7 expression is absent in FBXW7 -/- cells[2]. Cell viability assays show that the compound inhibits the growth of HCT116 FBXW7 +/+, FBXW7 -/-, and p53 -/- cells in a concentration-dependent manner at varying concentrations up to 1 μM over 72 hours[2]. Additionally, Western Blot analysis reveals that at 25 μM concentration for 6 hours, there is a delayed recovery of p53 levels in HCT116 FBXW7 +/+ or FBXW7 -/- cells post DNA damage, mediated by FBXW7 presence[2].
In vivo	Etoposide phosphate, administered as a single intravenous injection at dosages of 50, 100, or 150 mg/kg, induces prominent clinical symptoms in female CD-1 mice, including progressive ataxia, an impaired righting reflex, and splaying coupled with paresis of both fore- and hindlimbs by day 8. Similarly observed under light microscopy (LM) were degenerative changes in dorsal root ganglion cells and axonal degeneration in their distal and proximal processes affecting peripheral nerves, dorsal spinal roots, and dorsal funiculi of the spinal cord across all tested doses.

A DRUG SCREENING EXPERT

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4461 mL	7.2303 mL	14.4607 mL
5 mM	0.2892 mL	1.4461 mL	2.8921 mL
10 mM	0.1446 mL	0.723 mL	1.4461 mL
50 mM	0.0289 mL	0.1446 mL	0.2892 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Witterland AH, et al. Etoposide phosphate, the watersoluble prodrug of etoposide. Pharm World Sci. 1996 Oct;18(5):163-70.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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