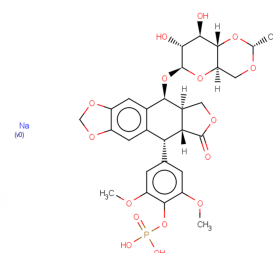


Etoposide phosphate disodium

Chemical Properties

CAS No. :	122405-33-8
Formula:	C ₂₉ H ₃₁ Na ₂ O ₁₆ P
Molecular Weight:	712.5
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Etoposide phosphate disodium (BMY-40481 disodium), a phosphate ester prodrug of etoposide, is a potent chemotherapeutic agent that selectively inhibits topoisomerase II, hindering the re-ligation of DNA strands. Regarded as the active equivalent of etoposide, it effectively induces cell cycle arrest, apoptosis, and autophagy in cancer cells.
Targets(IC50)	Apoptosis,Others,Autophagy,Topoisomerase
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 IC50 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.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4035 mL	7.0175 mL	14.0351 mL
5 mM	0.2807 mL	1.4035 mL	2.807 mL
10 mM	0.1404 mL	0.7018 mL	1.4035 mL
50 mM	0.0281 mL	0.1404 mL	0.2807 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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

Cui D, et al. FBXW7 Confers Radiation Survival by Targeting p53 for Degradation. Cell Rep. 2020 Jan 14;30(2):497-509.e4.

Bregman CL, et al. Etoposide- and BMY-40481-induced sensory neuropathy in mice. Toxicol Pathol. 1994 Sep-Oct; 22(5):528-35.

SUMMARY OF PRODUCT CHARACTERISTICS

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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