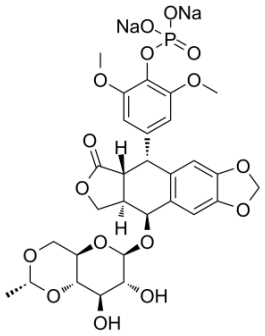
Etoposide phosphate disodium

Cat. No.:	HY-13630A
CAS No.:	122405-33-8
Molecular Formula:	$C_{29}H_{31}Na_2O_{16}P$
Molecular Weight:	712.5
Target:	Topoisomerase; Autophagy; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Autophagy; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Etoposide phosphate disodium (BMY-40481 disodium) is a potent anti-cancer chemotherapy agent and a selective topoisomerase II inhibitor to prevent re-ligation of DNA strands. Etoposide phosphate disodium is the phosphate ester prodrug of etoposide and is considered as active equivalent to Etoposide. Etoposide phosphate disodium induces cell cycle arrest, apoptosis, and autophagy[1][2].

IC_{50} & Target

Topoisomerase II

In Vitro

Etoposide phosphate disodium is a water-soluble derivative and probable prodrug of etoposide characterized by the presence of a phosphate group in position 4' of the E ring of the etoposide molecule[1].

Etoposide phosphate disodium (0-1 μM; 72 hours) inhibits HCT116 $FBXW^{+/+}$, $FBXW^{-/-}$ and $p53^{-/-}$ as a dose-dependent manner, exhibits IC_{50} values of 0.945 μM; 0.375 μM; and 1.437 μM, respectively[2].

Etoposide phosphate disodium (25 μM; 6 hours) delays p53 recover in FBXW7-deficient cells. In addition, FBXW7 expression is disappeared in $FBXW7^{-/-}$ cells[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	$FBXW^{+/+}$, $FBXW^{-/-}$ and $p53^{-/-}$ cell
Concentration:	0.025 μM, 0.05 μM, 0.075 μM, 0.1 μM, 0.2 μM, 0.4 μM, 0.6 μM, 0.8 μM, 1 μM
Incubation Time:	72 hours
Result:	Inhibited HCT116 $FBXW^{+/+}$, $FBXW^{-/-}$ and $p53^{-/-}$ cell growth as a concentration manner.

Western Blot Analysis[2]

Cell Line:	HCT116 $FBXW7^{+/+}$ or $FBXW7^{-/-}$ cells
Concentration:	25 μM
Incubation Time:	6 hours
Result:	Exhibited that the recovery of p53 levels after DNA damage is mediated by FBXW7.

In Vivo

Etoposide phosphate (intravenous injection; 50, 100, or 150 mg/kg; single dose) has clinical symptomology of progressive

ataxia, impaired righting reflex, and splaying and paresis of fore- and hindlimbs at day 8 in female CD-1 mice[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female CD-1 mice[3]
Dosage:	50, 100, or 150 mg/kg
Administration:	Intravenous injection; single dose
Result:	Observed degeneration of dorsal root ganglion cells and axonal degeneration of their distal and proximal processes in peripheral nerves, dorsal spinal roots, and dorsal funiculi of the spinal cord at all doses under light microscopy (LM).

REFERENCES

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

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

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

[4]. SUMMARY OF PRODUCT CHARACTERISTICS

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA