Estramustine phosphate

Cat. No.: HY-13627A

CAS No.: 4891-15-0

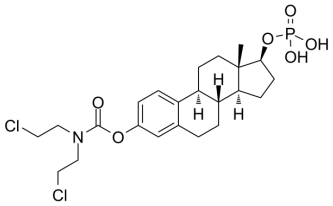
Molecular Formula: $C_{23}H_{32}Cl_2NO_6P$

Molecular Weight: 520.38

Target: Apoptosis; Microtubule/Tubulin

Pathway: Apoptosis; Cell Cycle/DNA Damage; Cytoskeleton

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Estramustine phosphate, an estradiol analog, is an orally active antimicrotubule chemotherapy agent. Estramustine phosphate depolymerises microtubules by binding to microtubule associated proteins (MAPs) and/or to tubulin. Estramustine phosphate can interfere mitosis, trigger cell death and induce apoptosis, which can be used for the research of cancer like prostate cancer[1][2][3].

In Vitro

Estramustine phosphate (1 μg/mL, 48 h) suppresses PC3 cell growth[1].
Estramustine phosphate (2 μg/mL, 48 h) elevates phosphatidylserine eversion amount on PC3 cells and induces PC3 cell apoptosis through reducing miR-31[1].
Estramustine phosphate (0-40 μM, 24-72 h) inhibits cell proliferation and tubulin cytoskeleton in RAW 264.7 cells[2].
Estramustine phosphate (10 μM, 24 h) inhibits TGF-β-induced RAW 264.7 cell migration, as well as TGF-β-induced uPA production by inhibiting Smad3 activation[2].

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

Cell Viability Assay[1]

Cell Line:	PC3 cells
Concentration:	1 μg/ mL
Incubation Time:	48 h
Result:	Suppressed PC3 cell growth.

Immunofluorescence[2]

Cell Line:	RAW 264.7 cells
Concentration:	10 μM
Incubation Time:	24 h
Result:	Disrupted the interphase microtubules.

Cell Migration Assay [2]

Cell Line:	18 h of TGF-β treated RAW 264.7 cells

Concentration:	10 μM
Incubation Time:	24 h
Result:	Inhibited TGF-β-Induced Cell Migration.

In Vivo

Estramustine phosphate (Intraperitoneal injection, 4 or 12 mg/kg, a daily dose for 2 weeks) inhibits PAC120 tumor growth 53% by day 35[3].

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Animal Model:	Human prostate cancer xenograft PAC120[3]
Dosage:	4 or 12 mg/kg, a daily dose for 2 weeks.
Administration:	Intraperitoneal injection
Result:	Inhibited PAC120 tumor growth 53% by day 35.

REFERENCES

[1]. C Wei, et al. Estramustine phosphate induces prostate cancer cell line PC3 apoptosis by down-regulating miR-31 levels. Eur Rev Med Pharmacol Sci. 2018 Jan;22(1):40-45.

[2]. Sonja S Mojsilovic, et al. Estramustine Phosphate Inhibits TGF- β-Induced Mouse Macrophage Migration and Urokinase-Type Plasminogen Activator Production. Anal Cell Pathol (Amst). 2018 Sep 2;2018:3134102.

[3]. Stephane Oudard, et al. Activity of docetaxel with or without estramustine phosphate versus mitoxantrone in androgen dependent and independent human prostate cancer xenografts. J Urol. 2003 May;169(5):1729-34.

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