Estramustine phosphate sodium

Cat. No.: HY-13627

CAS No.: 52205-73-9

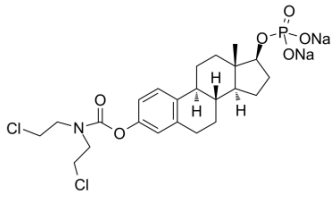
Molecular Formula: $C_{23}H_{30}Cl_2NNa_2O_6P$

Molecular Weight: 564.35

Target: Microtubule/Tubulin; Apoptosis

Pathway: Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 62.5 mg/mL (110.75 mM; Need ultrasonic)
DMSO : 5 mg/mL (8.86 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7720 mL	8.8598 mL	17.7195 mL
	5 mM	0.3544 mL	1.7720 mL	3.5439 mL
	10 mM	0.1772 mL	0.8860 mL	1.7720 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
Solubility: 65 mg/mL (115.18 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Estramustine phosphate sodium, an estradiol analog, is an orally active antimicrotubule chemotherapy agent. Estramustine phosphate sodium depolymerises microtubules by binding to microtubule associated proteins (MAPs) and/or to tubulin. Estramustine phosphate sodium induces prostate cancer cells apoptosis and can be used for prostate cancer research[1][2].

In Vitro

Estramustine phosphate sodium (1 μg/mL) treatment suppressed PC3 cell growth[2].
Estramustine phosphate sodium (2 μg/mL) treatment significantly elevates phosphatidylserine eversion amount on PC3 cells. Estramustine phosphate sodium induces PC3 cell apoptosis[2].
Estramustine phosphate sodium (2 μg/mL) treatment decreases MiR-31 level. Estramustine phosphate odium induces s prostate cancer cell line PC3 apoptosis through reducing miR-31[2].
Estramustine phosphate sodium, a unique antitumour agent, is selectively taken up by prostate cells and exerts antineoplastic effects by interfering with microtubule of dynamics and by reducing plasma levels of testosterone[1].
Estrone and estradiol, products of the metabolism of Estramustine phosphate sodium, have shown antigonadotrophic activity resulting in reduced testosterone levels similar to those achieved after surgical castration[1].

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

In Vivo

Estramustine phosphate sodium (4-12 mg/kg; intraperitoneal injection; daily; for 2 weeks) inhibits PAC120 tumor growth 53% by day 35[4].

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

Animal Model:	Swiss nu/nu (nude) male mice (5-week-old) bearing PAC120 tumors[3]
Dosage:	4 mg/kg, 12 mg/kg
Administration:	Intraperitoneal injection; daily; for 2 weeks
Result:	Suppressed the development of skin lesions and resulted in a dissociation between DTH response and antibody production.

REFERENCES

[1]. Perry CM, et al. Estramustine phosphate sodium. A review of its pharmacodynamic and pharmacokinetic properties, and therapeutic efficacy in prostate cancer. Drugs Aging. 1995 Jul;7(1):49-74.

[2]. Bergenheim AT, et al. Pharmacokinetics and pharmacodynamics of estramustine phosphate. Clin Pharmacokinet. 1998 Feb;34(2):163-72.

[3]. 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.

[4]. 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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