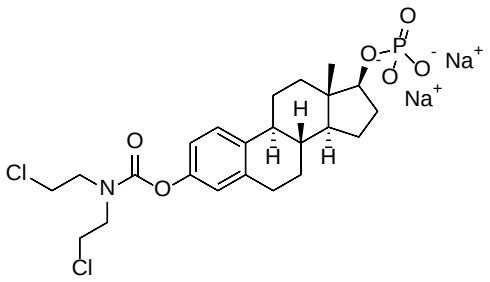
Product data sheet

MedKoo Cat#: 100310 Name: Estramustine phosphate sodium CAS#: 52205-73-9 (sodium) Chemical Formula: $C_{23}H_{30}Cl_2NNa_2O_6P$ Molecular Weight: 564.35	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Estramustine phosphate sodium is a synthetic molecule that combines estradiol and nornitrogen mustard through a carbamate link. Estramustine and its major metabolite estramustine bind to microtubule-associated proteins (MAPs) and tubulin, thereby inhibiting microtubule dynamics and leading to anaphase arrest in a dose-dependent fashion. This agent also exhibits anti-androgenic effects. Check for active clinical trials or closed clinical trials using this agent. (NCI Thesaurus).

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
Water	81.25	143.97
PBS (pH 7.2)	10.0	17.72
DMSO	1.75	3.10
DMF	0.25	0.44

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.77 mL	8.86 mL	17.72 mL
5 mM	0.35 mL	1.77 mL	3.54 mL
10 mM	0.18 mL	0.89 mL	1.77 mL
50 mM	0.04 mL	0.18 mL	0.35 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Wei C, Pan Y, Huang H, Li YP. 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. doi: 10.26355/eurrev_201801_14098. PMID: 29364469.
2. Mojsilovic SS, Mojsilovic S, Bjelica S, Santibanez JF. Estramustine Phosphate Inhibits TGF-β-Induced Mouse Macrophage Migration and Urokinase-Type Plasminogen Activator Production. Anal Cell Pathol (Amst). 2018 Sep 2;2018:3134102. doi: 10.1155/2018/3134102. PMID: 30245956; PMCID: PMC6139214.

In vivo study

1. Vallbo C, Bergenheim T, Hedman H, Henriksson R. The antimicrotubule drug estramustine but not irradiation induces apoptosis in malignant glioma involving AKT and caspase pathways. J Neurooncol. 2002 Jan;56(2):143-8. doi: 10.1023/a:1014562503097. PMID: 11995815.

7. Bioactivity
Biological target: Estramustine phosphate sodium is an antimicrotubule chemotherapy agent.

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In vitro activity

The molecular mechanism of estramustine phosphate in regulating PC3 cell growth was assessed. PC3 cell appeared growth restrain and apoptosis after treated by estramustine phosphate. MiR-31 level decreased after estramustine phosphate treatment. Prostate cancer tissue presented higher miR-31 level than paracarcinoma tissue. MiR-31 over-expression inhibited estramustine phosphate induced PC3 cell apoptosis.

Reference: Eur Rev Med Pharmacol Sci. 2018 Jan;22(1):40-45. https://www.europeanreview.org/article/14098

In vivo activity

The effect of irradiation, alone and in combination with the antimicrotubule drug estramustine (EaM), was investigated in vivo using the BT4C rat intracerebral glioma model. Irradiation did not induce apoptosis in vivo. EaM, however, induced apoptosis in vivo, regardless of whether EaM was given alone, before or after irradiation.

Reference: J Neurooncol. 2002 Jan;56(2):143-8. https://pubmed.ncbi.nlm.nih.gov/11995815/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.