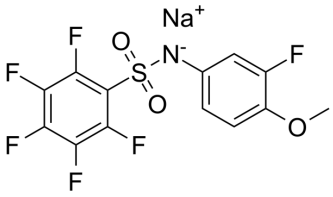
Batabulin sodium

Cat. No.:	HY-13563A
CAS No.:	195533-98-3
Molecular Formula:	$C_{13}H_6F_6NNaO_3S$
Molecular Weight:	393.24
Target:	Microtubule/Tubulin; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (317.87 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5430 mL	12.7149 mL	25.4298 mL
	5 mM	0.5086 mL	2.5430 mL	5.0860 mL
	10 mM	0.2543 mL	1.2715 mL	2.5430 mL

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

BIOLOGICAL ACTIVITY

Description

Batabulin sodium (T138067 sodium) is an antitumor agent, which binds covalently and selectively to a subset of the β-tubulin isotypes, thereby disrupting microtubule polymerization. Batabulin sodium affects cell morphology and leads to cell-cycle arrest ultimately induces apoptotic cell death[1].

IC_{50} & Target

β-tubulin[1]

In Vitro

Batabulin (T138067; 30-300 nM; 24 hours; MCF7 cells) treatment shows approximately 25-30% tetraploid (4n) DNA content in cells, indicating an arrest at the G2/M cell-cycle boundary[1].

Batabulin (T138067; 30-300 nM; 24-48 hours; MCF7 cells) treatment shows 25-30% apoptosis. After a 48-hr exposure to 100 nM Batabulin, approximately 50-80% of the cell population is undergoing apoptosis[1].

Batabulin (T138067) binds covalently and selectively to a subset of the β-tubulin isotypes, thereby disrupting microtubule polymerization. Covalent modification occurs at a conserved Cys-239 shared by the β1, β2, and β4 tubulin isotypes. Cells exposed to Batabulin become altered in shape, indicating a collapse of the cytoskeleton, and show an increase in chromosomal ploidy[1].

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

Cell Cycle Analysis[1]

Cell Line:	MCF7 cells
Concentration:	30 nM, 100 nM and 300 nM
Incubation Time:	24 hours
Result:	Showed an arrest at the G2/M cell-cycle boundary.

Apoptosis Analysis[1]

Cell Line:	MCF7 cells
Concentration:	30 nM, 100 nM and 300 nM
Incubation Time:	24 hours or 48 hours
Result:	25-30% of cells showed the reduced DNA content characteristic of apoptotic cells.

In Vivo

Batabulin (T138067; 40 mg/kg; intraperitoneal injection; once per week; on days 5, 12, and 19; male athymic nude mice) treatment impairs the growth of the drug-sensitive CCRF-CEM tumors[1].

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Animal Model:	Male athymic nude mice (nu/nu) (6-8 week-old, 20-25 g) injected withCCRF-CEM cells[1]
Dosage:	40 mg/kg
Administration:	Intraperitoneal injection; once per week; on days 5, 12, and 19
Result:	Impaired the growth of the drug-sensitive CCRF-CEM tumors.

REFERENCES

[1]. Shan B, et al. Selective, covalent modification of beta-tubulin residue Cys-239 by T138067, an antitumor agent with in vivo efficacy against multidrug-resistant tumors. Proc Natl Acad Sci U S A. 1999 May 11;96(10):5686-91.

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