Batabulin

Cat. No.: HY-13563

CAS No.: 195533-53-0

Molecular Formula: $C_{13}H_7F_6NO_3S$

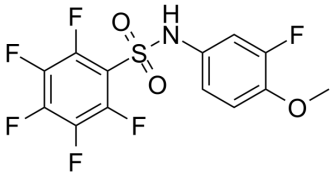
Molecular Weight: 371.26

Target: Microtubule/Tubulin; Apoptosis

Pathway: Cell Cycle/DNA Damage; Cytoskeleton; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

Ethanol : 100 mg/mL (269.35 mM; Need ultrasonic)
DMSO : 100 mg/mL (269.35 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6935 mL	13.4677 mL	26.9353 mL
5 mM	0.5387 mL	2.6935 mL	5.3871 mL
10 mM	0.2694 mL	1.3468 mL	2.6935 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Batabulin (T138067) is an antitumor agent, which binds covalently and selectively to a subset of the β-tubulin isotypes, thereby disrupting microtubule polymerization. Batabulin 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].

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

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.

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