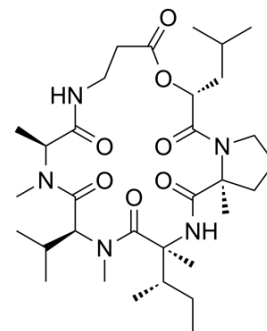


Destruxin B

Cat. No.:	HY-N6690
CAS No.:	2503-26-6
Molecular Formula:	C ₃₂ H ₅₅ N ₅ O ₇
Molecular Weight:	621.81
Target:	Bcl-2 Family; Caspase; Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Destruxin B, isolated from entomopathogenic fungus <i>Metarhizium anisopliae</i> , is one of the cyclodepsipeptides with insecticidal and anticancer activities. Destruxin B induces apoptosis via a Bcl-2 Family-dependent mitochondrial pathway in human nonsmall cell lung cancer cells ^[1] . Destruxin B significantly activates caspase-3 and reduces tumor cell proliferation through caspase-mediated apoptosis, not only in vitro but also in vivo ^[2] .																	
IC₅₀ & Target	Bcl-2	Caspase-3																
In Vitro	<p>Destruxin B (1-30 μM; 48 hours) inhibits cell proliferation of H1299 cells and A549 cells, with IC₅₀s of 4.1 μM and 4.9 μM, respectively^[1].</p> <p>Activation of mitochondria-dependent caspase cascade plays an important role in Destruxin B (1-30 μM; 48 hours) induced apoptotic cell death in A549 cells^[1].</p> <p>Destruxin B (1.25-20.00 μM; 72 hours) treatment significantly inhibits HT-29 human colorectal cancer cells viability in time- and dose-dependent manners^[2].</p> <p>Destruxin B (10 or 20 μM; 12 and 24 hours) treatment markedly increases levels of the proapoptotic protein PUMA and reduces levels of antiapoptotic proteins Mcl-1 of A549 cells in a concentration- and time-dependent manner^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Proliferation Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>H1299 cells</td> </tr> <tr> <td>Concentration:</td> <td>1, 5, 10, 20, 30 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Inhibited H1299 cells proliferation of H1299 cells with an IC₅₀ of 4.1 μM.</td> </tr> </table> <p>Apoptosis Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>Lung adenocarcinoma A549 cells</td> </tr> <tr> <td>Concentration:</td> <td>1, 5, 10, 20, 30 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 hours</td> </tr> <tr> <td>Result:</td> <td>Induces caspase-dependent Lung adenocarcinoma A549 cells death.</td> </tr> </table>		Cell Line:	H1299 cells	Concentration:	1, 5, 10, 20, 30 μM	Incubation Time:	48 hours	Result:	Inhibited H1299 cells proliferation of H1299 cells with an IC ₅₀ of 4.1 μM.	Cell Line:	Lung adenocarcinoma A549 cells	Concentration:	1, 5, 10, 20, 30 μM	Incubation Time:	48 hours	Result:	Induces caspase-dependent Lung adenocarcinoma A549 cells death.
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	Cell Viability Assay ^[2]	
	Cell Line:	HT-29 human colorectal cancer cells
	Concentration:	1.25, 2.50, 5.00, 10.00 and 20.00 μ M
	Incubation Time:	72 hours
	Result:	The IC ₅₀ s at 24 h, 48 h and 72h were determined as 14.97, 2.00 and 0.67 μ M, respectively.
	Western Blot Analysis ^[1]	
	Cell Line:	A549 cells
	Concentration:	10 or 20 μ M
	Incubation Time:	12 and 24 hours
	Result:	Regulates Mcl-1 and PUMA.
In Vivo	Destruxin B (DB) (injection; 0.6-15 mg/kg/day for 6 weeks) attenuates the tumor growth in time- and dose-dependent manners ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Athymic female nude mice (BALB/cAnN.Cg-Foxn1nu/CrINarl), approximately 4-5 weeks old on arrival ^[2]
	Dosage:	Low dose (0.6 mg/kg), medium dose (3 mg/kg), high dose (15 mg/kg)
	Administration:	Injection; daily; for 6 weeks
	Result:	Low dose, medium dose and high dose indicated a reduction of 23.9%, 33.4% and 55.8% in mean tumor size, respectively.

REFERENCES

[1]. Wu CC, et al. Destruxin B Isolated from Entomopathogenic Fungus *Metarhizium anisopliae* Induces Apoptosis via a Bcl-2 Family-Dependent Mitochondrial Pathway in Human NonsmallCell Lung Cancer Cells. *Evid Based Complement Alternat Med.* 2013;2013:548929.

[2]. Lee YP, et al. In vitro and in vivo anticancer effects of destruxin B on human colorectal cancer. *Anticancer Res.* 2012 Jul;32(7):2735-45.

Caution: Product has not been fully validated for medical applications. For research use only.

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