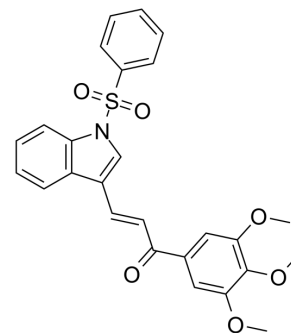


Tubulin inhibitor 23

Cat. No.:	HY-144818
CAS No.:	170488-57-0
Molecular Formula:	C ₂₆ H ₂₃ NO ₆ S
Molecular Weight:	477.53
Target:	Apoptosis; Microtubule/Tubulin
Pathway:	Apoptosis; Cell Cycle/DNA Damage; Cytoskeleton
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Tubulin inhibitor 23 is a potent Tubulin inhibitor with an IC ₅₀ of 4.8 μM. Tubulin inhibitor 23 induces cell apoptosis. Tubulin inhibitor 23 shows antiangiogenic activity in a dose-dependent manner. Tubulin inhibitor 23 has the potential for the research of leukaemia ^[1] .																
IC₅₀ & Target	IC ₅₀ : 4.8 μM (Tubulin) ^[1]																
In Vitro	<p>Tubulin inhibitor 23 (compound 29e) (0-100 μM) inhibits tubulin polymerisation (IC₅₀=4.8 μM) and anti-angiogenesis (IC₅₀ ≈3.4 μM) in Zebrafish^[1].</p> <p>Tubulin inhibitor 23 (0-200 nM; 48 h) induces cell apoptosis in a concentration-dependent manner^[1].</p> <p>Tubulin inhibitor 23 (0-20 μM; 0-29 min) binds to the colchicine site of tubulin and inhibit the microtubule polymerisation^[1].</p> <p>Tubulin inhibitor 23 (0.1, 1, 10 μM; 1 h) shows anti-angiogenesis activity with low toxicity (IC₅₀=58.6 μM) in Human umbilical vein endothelial cells (HUVECs)^[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>MV4-11, HL60, K562, THP-1,CCRF-CEM, Jurkat, HuT 78 cells</td> </tr> <tr> <td>Concentration:</td> <td></td> </tr> <tr> <td>Incubation Time:</td> <td>72 h</td> </tr> <tr> <td>Result:</td> <td>Showed potent growth inhibitory activity with IC₅₀s of 0.25, 0.18, 0.09, 0.37, 0.84, 1.22, 0.26 μM for MV4-11, HL60, K562, THP-1,CCRF-CEM, Jurkat, HuT 78 cells, respectively.</td> </tr> </table> <p>Apoptosis Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>K562 cells</td> </tr> <tr> <td>Concentration:</td> <td>0, 50, 100, 200 nM</td> </tr> <tr> <td>Incubation Time:</td> <td>48 h</td> </tr> <tr> <td>Result:</td> <td>The percentage of apoptotic cell significantly increased from 5.95% to 45.81%.</td> </tr> </table> <p>Western Blot Analysis^[1]</p>	Cell Line:	MV4-11, HL60, K562, THP-1,CCRF-CEM, Jurkat, HuT 78 cells	Concentration:		Incubation Time:	72 h	Result:	Showed potent growth inhibitory activity with IC ₅₀ s of 0.25, 0.18, 0.09, 0.37, 0.84, 1.22, 0.26 μM for MV4-11, HL60, K562, THP-1,CCRF-CEM, Jurkat, HuT 78 cells, respectively.	Cell Line:	K562 cells	Concentration:	0, 50, 100, 200 nM	Incubation Time:	48 h	Result:	The percentage of apoptotic cell significantly increased from 5.95% to 45.81%.
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	Cell Line:	K562 cells
	Concentration:	0, 50, 100, 200 nM
	Incubation Time:	48 h
	Result:	Increased the expression of cleaved caspase-3 and PARP.
In Vivo	Tubulin inhibitor 23 (2, 6 μ M; add into embryo water) shows antiangiogenic activity in a dose-dependent manner ^[1] . Tubulin inhibitor 23 (2, 6 μ M; add into embryo water) suppresses the proliferation and metastasis of K562 cells in zebrafish xenografts in a dose-dependent manner ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	3hpf zebrafish embryos ^[1]
	Dosage:	2.0, 6.0 μ M
	Administration:	Add into embryo water
	Result:	Decreased the number and length of ISVs (intersegmental vessels) in a dose-dependent inhibition pattern.
	Animal Model:	Transgenic zebrafish (fil1:EGFP) (K562 cell xenograft) ^[1]
	Dosage:	2, 6 μ M
	Administration:	Add into embryo water
	Result:	Reduced intensities and decreased tumour area.

REFERENCES

[1]. Yao Y, et al. Angiogenesis and anti-leukaemia activity of novel indole derivatives as potent colchicine binding site inhibitors. J Enzyme Inhib Med Chem. 2022 Dec;37(1):652-665.

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