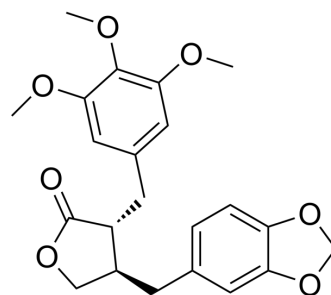


Yatein

Cat. No.:	HY-N1060
CAS No.:	40456-50-6
Molecular Formula:	C ₂₂ H ₂₄ O ₇
Molecular Weight:	400.42
Target:	HSV; Apoptosis
Pathway:	Anti-infection; Apoptosis
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description	Yatein is a lignan isolated from <i>A. chilensis</i> , with antiproliferative activity ^[1] . Yatein suppresses herpes simplex virus type 1 (HSV-1) replication by interruption the immediate-early gene expression ^[2] .																
IC₅₀ & Target	HSV-1																
In Vitro	<p>Yatein induces cell-cycle arrest at G2/M phase (5 μM; 24 hours) and enhances G2/M phase-related protein expression (5 μM; 6-12 hours) in human lung adenocarcinoma A549 and CL1-5 cells^[3].</p> <p>Yatein (5 μM; 6-12 hours) induces DNA damage through activation of the ATM/ATR pathway in human A549 and CL1-5 cells^[3].</p> <p>Yatein (5 μM; 6 hours) affects microtubule dynamics by inhibiting tubulin polymerization^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Cycle Analysis^[3]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A549 cells, CL1-5 cells</td> </tr> <tr> <td>Concentration:</td> <td>1.25 μM , 2.5 μM , 5 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 hours</td> </tr> <tr> <td>Result:</td> <td>Induced cell-cycle arrest at G2/M phase in both cell lines.</td> </tr> </table> <p>Western Blot Analysis^[3]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>A549 cells, CL1-5 cells</td> </tr> <tr> <td>Concentration:</td> <td>5 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>6 hours, 12 hours</td> </tr> <tr> <td>Result:</td> <td>Upregulated the expression of cyclin B1, but not Cdc2 and Cdc25c, induced Cdc2 phosphorylation.</td> </tr> </table>	Cell Line:	A549 cells, CL1-5 cells	Concentration:	1.25 μM , 2.5 μM , 5 μM	Incubation Time:	24 hours	Result:	Induced cell-cycle arrest at G2/M phase in both cell lines.	Cell Line:	A549 cells, CL1-5 cells	Concentration:	5 μM	Incubation Time:	6 hours, 12 hours	Result:	Upregulated the expression of cyclin B1, but not Cdc2 and Cdc25c, induced Cdc2 phosphorylation.
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In Vivo	<p>Yatein (20 mg/kg; i.p.; five times per week; for 42 days) exhibits in vivo antitumor effects in a human lung adenocarcinoma xenograft mouse model^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>																

Animal Model:	Male NOD/SCID mice (6-8 weeks), with A549 cells xenograft ^[3]
Dosage:	20 mg/kg
Administration:	Intraperitoneal injection, five times per week, for 42 days
Result:	Significantly slowed tumor growth and moderately increased both cyclin B1 expression and Cdc2 phosphorylation.

REFERENCES

- [1]. Donoso-Fierro C, et al. Antiproliferative activity of yatein isolated from *Austrocedrus chilensis* against murine myeloma cells: cytological studies and chemical investigations. *Pharm Biol.* 2015 Mar;53(3):378-85.
- [2]. Kuo YC, et al. Yatein from *Chamaecyparis obtusa* suppresses herpes simplex virus type 1 replication in HeLa cells by interruption the immediate-early gene expression. *Antiviral Res.* 2006 Jul;70(3):112-20.
- [3]. Shang-Tse Ho, et al. Molecular Mechanisms Underlying Yatein-Induced Cell-Cycle Arrest and Microtubule Destabilization in Human Lung Adenocarcinoma Cells. *Cancers (Basel).* 2019 Sep; 11(9): 1384.

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

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