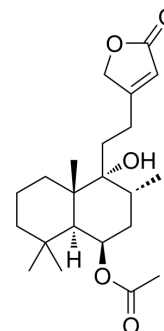


## Vitexilactone

<b>Cat. No.:</b>	HY-N1079
<b>CAS No.:</b>	61263-49-8
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>34</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	378.5
<b>Target:</b>	Bacterial; Apoptosis
<b>Pathway:</b>	Anti-infection; Apoptosis
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

Description	Vitexilactone is a diterpenoid that can be isolated from the leaves of <i>Vitex negundo</i> L. Vitexilactone shows antimicrobial activity towards <i>E. coli</i> . Vitexilactone induces cell apoptosis and inhibits cell cycle of cancer cells. Vitexilactone can be used for the research of cancer <sup>[1][2]</sup> .																				
In Vitro	<p>Vitexilactone shows significant antimicrobial activity towards <i>E. coli</i> with an MIC value <math>\approx</math> 90 <math>\mu</math>g/mL<sup>[1]</sup>. Vitexilactone (0-100 <math>\mu</math>g/mL; 17-24 h) inhibits cell proliferation of mammalian cancer cells<sup>[2]</sup>. Vitexilactone (25-100 <math>\mu</math>g/mL; 17 h) induces cell apoptosis at higher concentrations, while inhibits the cell cycle G0/G1 phase at lower concentrations of tsFT210 and K562 cells<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Proliferation Assay<sup>[2]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>tsFT210 and K562 cells lines</td> </tr> <tr> <td>Concentration:</td> <td>0-100 <math>\mu</math>g/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>17-24 hours</td> </tr> <tr> <td>Result:</td> <td>Inhibited cell proliferation of mammalian cancer cells with IC<sub>50</sub> values of 86.9 and 57.9 <math>\mu</math>g/mL for tsFT210 and K562 cells, respectively.</td> </tr> </table> <p>Apoptosis Analysis<sup>[2]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>tsFT210 and K562 cell lines</td> </tr> <tr> <td>Concentration:</td> <td>25-100 <math>\mu</math>g/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>17 hours</td> </tr> <tr> <td>Result:</td> <td>Induced cell apoptosis of tsFT210 with a MIC value of 25 <math>\mu</math>g/mL.</td> </tr> </table> <p>Cell Cycle Analysis<sup>[2]</sup></p> <table border="1"> <tr> <td>Cell Line:</td> <td>tsFT210 and K562 cell lines</td> </tr> <tr> <td>Concentration:</td> <td>25-100 <math>\mu</math>g/mL</td> </tr> </table>	Cell Line:	tsFT210 and K562 cells lines	Concentration:	0-100 $\mu$ g/mL	Incubation Time:	17-24 hours	Result:	Inhibited cell proliferation of mammalian cancer cells with IC <sub>50</sub> values of 86.9 and 57.9 $\mu$ g/mL for tsFT210 and K562 cells, respectively.	Cell Line:	tsFT210 and K562 cell lines	Concentration:	25-100 $\mu$ g/mL	Incubation Time:	17 hours	Result:	Induced cell apoptosis of tsFT210 with a MIC value of 25 $\mu$ g/mL.	Cell Line:	tsFT210 and K562 cell lines	Concentration:	25-100 $\mu$ g/mL
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Incubation Time:	17 hours
Result:	Inhibited G0/G1 phase of cell cycle with the dose ranges of 50-6.25 µg/mL in tsFT210 cells.

## REFERENCES

- [1]. Sichaem J, et al. A new labdane-type diterpenoid from the leaves of *Vitex negundo* L. *Nat Prod Res.* 2021 Jul;35(14):2329-2334.
- [2]. Li WX, et al. Labdane-type diterpenes as new cell cycle inhibitors and apoptosis inducers from *Vitex trifolia* L. *J Asian Nat Prod Res.* 2005 Apr;7(2):95-105.

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

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