**Corynxeine**

**Cat. No.** HY-N0590  
**CAS No.** 630-94-4  
**Molecular Formula** C₁₂₂H₂₆N₂O₄  
**Molecular Weight** 382.45  
**Target** ERK  
**Pathway** MAPK/ERK Pathway; Stem Cell/Wnt  
**Storage**  
- Powder: -20°C 3 years, 4°C 2 years  
- In solvent: -80°C 2 years, -20°C 1 year

**SOLVENT & SOLUBILITY**

**In Vitro**  
DMSO: ≥ 3.8 mg/mL (9.94 mM)  
* "≥" means soluble, but saturation unknown.*  

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.6147 mL</td>
<td>13.0736 mL</td>
<td>26.1472 mL</td>
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<tr>
<td>5 mM</td>
<td>0.5229 mL</td>
<td>2.6147 mL</td>
<td>5.2294 mL</td>
</tr>
<tr>
<td>10 mM</td>
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</tbody>
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Please refer to the solubility information to select the appropriate solvent.

**BIOLOGICAL ACTIVITY**

**Description**  
Corynxeine, isolated from the hook of Uncaria rhynchophylla, is a potent ERK1/ERK2 inhibitor of key PDGF-BB-induced vascular smooth muscle cells (VSMCs) proliferation.

<table>
<thead>
<tr>
<th>IC₅₀ &amp; Target</th>
<th>ERK1</th>
<th>ERK2</th>
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<tbody>
<tr>
<td>In Vitro</td>
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Corynxeine is able to inhibit the PDGF-BB-stimulated proliferation of VSMCs through downregulation of PDGF-BB-induced ERK1/2 activation. Pre-incubation of VSMCs with Corynxeine significantly inhibits PDGF-BB-induced extracellular signal-regulated kinase 1/2 (ERK1/2) activation, whereas Corynxeine has no effects on mitogen-activated protein kinase (MAPK/ERK)-activating kinase 1 and 2 (MEK1/2), Akt, or phospholipase C (PLC)γ1 activation or on PDGF receptor beta (PDGF-Rβ) phosphorylation. Corynxeine inhibits PDGF-BB-induced ERK1/2 activation, in the same concentration range that inhibits VSMC proliferation and DNA synthesis. Corynxeine inhibits VSMC numbers in response to PDGF-BB with 50% inhibitory concentrations (IC₅₀) of 13.7 μM. Corynxeine inhibits DNA synthesis in response to PDGF-BB (24 h) with IC₅₀ of 9.2 μM. Pre-treatment of VSMCs with Corynxeine (5-50 μM) for 24 h results in significant decreases in cell number without any cytotoxicity; the inhibition percentages are 25.0±12.5, 63.0±27.5 and 88.0±12.5% at 5, 20 and 50 μM, respectively.
Corynoxeine also significantly inhibits the 50 ng/mL PDGF-BB-induced DNA synthesis of VSMCs in a concentration-dependent manner without any cytotoxicity; the inhibitions are 32.8±11.0, 51.8±8.0 and 76.9±7.4% at concentrations of 5, 20 and 50 μM, respectively[1].

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

PROTOCOL

Cell Assay[1]

Cell proliferation and DNA synthesis are measured. For cell counting, VSMCs are seeded in 12-well culture plates at 5-6×10^4 cells/mL and cultured in DMEM with 10% FBS at 37°C for 24 h. Under these conditions, the cells reach 70% confluence. The medium is then replaced by serum-free medium with Corynoxeine (5-50 μM). The cells are stimulated with 50 ng/mL PDGF-BB, then trypsinized with trypsin-EDTA and counted using a hemocytometer under a microscope. For [3H]-thymidine incorporation experiments, VSMCs are seeded in 24-well culture plates 5000 cells/well and then allowed to grow for 3-4 d in DMEM, and 2 μCi/mL of [3H]-thymidine are added to the medium. The reactions are terminated after 4 h by aspirating the medium and subjecting the cultures to sequential washes on ice with PBS containing 10% trichloroacetic acid and ethanol/ether (1 : 1, v/v). Acid-insoluble [3H]-thymidine is extracted into 250 μL of 0.5 M NaOH/well; this solution is then mixed with 3ml of scintillation cocktail and quantified using a liquid scintillation counter[1].

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CUSTOMER VALIDATION

- Immunobiology. 15 December 2021, 152165.

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REFERENCES


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

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