**Nicardipine**

Cat. No.: HY-12515  
CAS No.: 55985-32-5  
Molecular Formula: C₂₆H₂₉N₃O₆  
Molecular Weight: 479.53  
Target: Calcium Channel  
Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling  
Storage: Please store the product under the recommended conditions in the Certificate of Analysis.

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**BIOLOGICAL ACTIVITY**

**Description**
Nicardipine (YC-93 free base) is a calcium channel blocker with an IC₅₀ of 1 μM for blocking cardiac calcium channels. Nicardipine acts as an agent for chronic stable angina and for controlling blood pressure[1].

**IC₅₀ & Target**
IC₅₀: 1 μM (cardiac calcium channels)[1]

**In Vitro**
Nicardipine (0.1-10 μM; 24-48 h) reduces viability and proliferation of vascular smooth muscle cells (VSMCs) and inhibits their ability to migrate[2].

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

**Cell Viability Assay**[2]

<table>
<thead>
<tr>
<th>Cell Line:</th>
<th>VSMCs were isolated from New Zealand rabbit aortic preparations</th>
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</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>0.1 μM, 1 μM, 3 μM, 10 μM</td>
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<tr>
<td>Incubation Time:</td>
<td>24-48 hours</td>
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<tr>
<td>Result:</td>
<td>Treatment reduced significantly cell viability and inhibited VSMCs proliferation in the presence of 10% FBS in a dose-dependent way, from 205.4±17.5% to 176.6±17%, 160.6±5.7%, 150.4±11.2%, 61.22±7.83% after 0.1 μM, 1 μM, 3 μM, 10 μM treatment, respectively.</td>
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**In Vivo**
Nicardipine (0.3-10 mg/kg; p.o.) shows antihypertensive properties[3].
LD₅₀s of Nicardipine are 643 mg/kg (oral) and 557 mg/kg (oral); 18.1 mg/kg (intravenous) 25.0 mg/kg (intravenous); 735 mg/kg (subcutaneous) and 683 mg/kg (subcutaneous); 171 mg/kg (intraperitoneally) and 155 mg/kg (intraperitoneally) for male and female Sprague-Dawley rats, respectively[3].
LD₅₀s of Nicardipine are 187 mg/kg (oral) and 15.5 mg/kg (intravenous) for male Wistar rats, respectively[3].
LD₅₀s of Nicardipine are 634 mg/kg (oral) and 650 mg/kg (oral); 20.7 mg/kg (intravenous) 19.9 mg/kg (intravenous); 540 mg/kg (subcutaneous) and 710 mg/kg (subcutaneous); 144 mg/kg (intraperitoneally) and 161 mg/kg (intraperitoneally) for male and female mice, respectively[3].

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**Animal Model:** In conscious normotensive rats (NR)[3]
Dosage: 0.3-10 mg/kg
Administration: P.o.
Result: Induced a dose-dependent hypotensive response (maximal decrease in mean blood pressure, supine position) without any postural hypotensive response.

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REFERENCES


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