

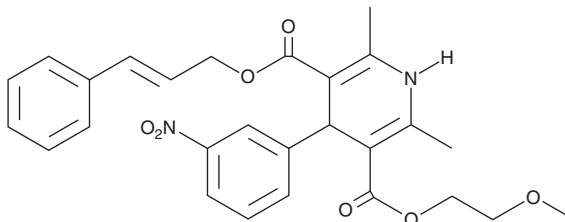
# PRODUCT INFORMATION



## Cilnidipine

Item No. 26080

**CAS Registry No.:** 132203-70-4  
**Formal Name:** 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid, 3-(2-methoxyethyl) 5-[(2E)-3-phenyl-2-propen-1-yl] ester  
**Synonym:** FRC 8653  
**MF:** C<sub>27</sub>H<sub>28</sub>N<sub>2</sub>O<sub>7</sub>  
**FW:** 492.5  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 241, 358 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Cilnidipine is supplied as a crystalline solid. A stock solution may be made by dissolving the cilnidipine in the solvent of choice. Cilnidipine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of cilnidipine in these solvents is approximately 2, 25, and 30 mg/ml, respectively.

Cilnidipine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, cilnidipine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Cilnidipine has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Cilnidipine is a dihydropyridine calcium channel blocker that blocks L- and N-type high-voltage-activated calcium currents in rat hippocampal CA1 pyramidal neurons when used at a concentration of 10 μM.<sup>1</sup> Cilnidipine (3 mg/kg) reduces the pressor response to acute cold stress, as well as mean blood pressure, in spontaneously hypertensive rats.<sup>2</sup> It dose-dependently reduces mean blood pressure and cerebral vascular resistance without affecting cerebral blood flow in anesthetized rats at doses ranging from 3-100 μg/kg.<sup>3</sup> Cilnidipine (100 μg/kg, i.p.) reduces cerebral infarction area in a rat model of focal brain ischemia.

### References

1. Murai, Y., Uneyama, H., Ishibashi, H., *et al.* Preferential inhibition of L- and N-type calcium channels in the rat hippocampal neurons by cilnidipine. *Brain Res.* **854**(1-2), 6-10 (1999).
2. Hosono, M., Hiruma, T., Watanabe, K., *et al.* Inhibitory effect of cilnidipine on pressor response to acute cold stress in spontaneously hypertensive rats. *Jpn. J. Pharmacol.* **69**(2), 119-125 (1995).
3. Takahara, A., Konda, T., Enomoto, A., *et al.* Neuroprotective effects of a dual L/N-type Ca<sup>2+</sup> channel blocker cilnidipine in the rat focal brain ischemia model. *Biol. Pharm. Bull.* **27**(9), 1388-1391 (2004).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/23/2018

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
[WWW.CAYMANCHEM.COM](http://WWW.CAYMANCHEM.COM)