Efonidipine hydrochloride

Cat. No.: HY-12502B
CAS No.: 111011-53-1
Molecular Formula: C₃₄H₃₉ClN₃O₇P
Molecular Weight: 668.12
Target: Calcium Channel
Pathway: Membrane Transporter/Ion Channel
Storage: Please store the product under the recommended conditions in the COA.

### SOLVENT & SOLUBILITY

#### In Vitro

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Solvent Mass 1 mg</th>
<th>Solvent Mass 5 mg</th>
<th>Solvent Mass 10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>1.4967 mL</td>
<td>7.4837 mL</td>
<td>14.9674 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.2993 mL</td>
<td>1.4967 mL</td>
<td>2.9935 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.1497 mL</td>
<td>0.7484 mL</td>
<td>1.4967 mL</td>
</tr>
</tbody>
</table>

DMSO : 8.5 mg/mL (12.72 mM; Need ultrasonic and warming)

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

**Description**

Efonidipine Hcl (NZ-105) is a dual T-type and L-type calcium channel blocker (CCB). IC50 value: Target: calcium channel blocker in vitro: Efonidipine and nifedipine, but not other examined CCBs, also increased the N(6), 2'-O-dibutyryladenosine 3',5'-cyclic monophosphate (dbcAMP)-induced StAR mRNA, which reflects the action of adrenocorticotropic hormone, and efonidipine and R(-)-efonidipine enhanced the dbcAMP-induced DHEA-S production in NCI-H295R adrenocortical carcinoma cells [1]. I(Ca(T)) was blocked mainly by a tonic manner by nifedipine, by a use-dependent manner by mibefradil, and by a combination of both manners by efonidipine. IC50s of these Ca2+ channel antagonists to I(Ca(T)) and L-type Ca2+ channel current (I(Ca(L))) were 1.2 micromol/l and 0.14 nmol/l for nifedipine; 0.87 and 1.4 micromol/l for mibefradil, and 0.35 micromol/l and 1.8 nmol/l for efonidipine, respectively [4].

**In vivo:** Twenty hypertensive patients on chronic hemodialysis were given efonidipine 20-60 mg twice daily and amlodipine 2.5-7.5 mg once daily for 12 weeks each in a random crossover manner. The average blood pressure was comparable between the efonidipine and amlodipine periods (151 ± 15/77 ± 8 versus 153 ± 15/76 ± 8 mmHg). The pulse rate did not change significantly during the administration periods [2]. In the UM-X7.1 group, EFO treatment significantly attenuated the decrease of LVEF without affecting blood pressure compared with the vehicle group. EFO treatment decreased heart rate (by approximately 10%) in both groups [3].
REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only. Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA