Product Name: Loperamide hydrochloride
Catalog No.: 0840
Batch No.: 6
CAS Number: 34552-83-5
EC Number: 252-082-4
IUPAC Name: 4-(4-Chlorophenyl)-4-hydroxy-\(N,N\)-dimethyl-\(\alpha,\alpha\)-diphenyl-1-piperidinebutanamide hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: \(\text{C}_{29}\text{H}_{33}\text{ClN}_2\text{O}_2\cdot\text{HCl}\)

Batch Molecular Weight: 513.51

Physical Appearance: White solid

Solubility: ethanol to 50 mM
DMSO to 50 mM

Storage: Store at RT

Batch Molecular Structure:

2. ANALYTICAL DATA

HPLC:
Shows 99.2% purity

\(^1\text{H NMR}:
Consistent with structure

Mass Spectrum:
Consistent with structure

Microanalysis:

<table>
<thead>
<tr>
<th>Component</th>
<th>Theoretical</th>
<th>Found</th>
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<tbody>
<tr>
<td>Carbon</td>
<td>67.83</td>
<td>67.34</td>
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<tr>
<td>Hydrogen</td>
<td>6.67</td>
<td>6.59</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>5.46</td>
<td>5.57</td>
</tr>
</tbody>
</table>

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use
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**Catalog No.:** 0840  
**Batch No.:** 6

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**IUPAC Name:** 4-(4-Chlorophenyl)-4-hydroxy-N,N-dimethyl-α,α-diphenyl-1-piperidinebutanamide hydrochloride

**Description:**  
High affinity μ-opioid receptor agonist with peripheral selectivity (Kᵢ values are 2, 48 and 1156 nM for μ-, δ- and κ-opioid receptors respectively). Antidiarrheal and antihyperalgesic agent. Also a Ca²⁺ channel blocker; at low micromolar concentrations it blocks broad spectrum neuronal HVA Ca²⁺ channels and at higher concentrations it reduces Ca²⁺ flux through NMDA receptor operated channels.

**Physical and Chemical Properties:**  
- **Batch Molecular Formula:** C$_{29}$H$_{33}$ClN$_2$O$_2$.HCl  
- **Batch Molecular Weight:** 513.51  
- **Physical Appearance:** White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**

![Batch Molecular Structure](image)

**Storage:** Store at RT

**Solubility & Usage Info:**
- ethanol to 50 mM  
- DMSO to 50 mM

**Stability and Solubility Advice:**
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath). Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**