Endomorphin-1

**Cat. No.:** A1013  
**CAS No.:** 189388-22-5  
**Formula:** C34H38N6O5  
**M.Wt.:** 610.67  
**Synonyms:** Tyr-Pro-Trp-Phe  
**Target:** Neuroscience  
**Pathway:** Neuroscience Peptides  
**Storage:** Desiccate at -20°C

### Solvent & Solubility

<table>
<thead>
<tr>
<th>Mass</th>
<th>Solvent</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>H2O</td>
<td>1.6375 mL</td>
<td>8.1877 mL</td>
<td>16.3755 mL</td>
</tr>
<tr>
<td>1 mM</td>
<td>DMSO</td>
<td>*</td>
<td>30.55 mg/mL</td>
<td>*</td>
</tr>
<tr>
<td>1 mM</td>
<td>EtOH</td>
<td>*</td>
<td>47 mg/mL</td>
<td>*</td>
</tr>
</tbody>
</table>

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

### Biological Activity

**Shortsummary**

Agonist of μ-opioid receptors, highly potent and selective

**IC₅₀ & Target**

**Cell Viability Assay**

**Cell Line:** Primary human fetal mixed glial/neuronal brain cell, human microglial cell  
**Preparation method:** The solubility of this compound in DMSO is >30 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.  
**Reacting conditions:** 0.1 nM
Applications: In mixed glial/neuronal cell cultures infected with HIV-1, endomorphin-1 potentiated the expression of HIV-1 in a bell-shaped dose-response manner. Endomorphin-1 (0.1 nM) consistently amplified the replication of HIV-1. In microglial cells, endomorphin-1 potentiated the expression of HIV-1, with maximal enhancement of HIV-1 expression at 10-10M.

**Animal experiment**

<table>
<thead>
<tr>
<th>Animal models</th>
<th>Male ICR mice, adult female Sprague–Dawley rats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage form</td>
<td>i.c.v. injection, 5 min, 3.28 nM-16.38 nM, intrathecal injection</td>
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<tr>
<td>Applications:</td>
<td>Endomorphin-1 inhibited the tail-flick (AD50 = 6.16 nM) and hot-plate responses (AD50 = 1.94 nM) in a dose-dependent manner at 5 min after i.c.v. injection. In rats, intrathecal injection of 1:10 and 1:100 times diluted EM1 antiserum significantly decreased the effect of 2 Hz electroacupuncture analgesia.</td>
</tr>
<tr>
<td>Other notes:</td>
<td>Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.</td>
</tr>
</tbody>
</table>

**References**


**Caution**

FOR RESEARCH PURPOSES ONLY.
NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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of the product, follow the storage recommendations on the product data sheet.