Melanotan (MT)-II

Cat. No.: HY-P0267
CAS No.: 121062-08-6
Molecular Formula: C₅₀H₆₉N₁₅O₉
Molecular Weight: 1024.18
Sequence: Ac-(Nle)-Asp-His-(d-Phe)-Arg-Trp-Lys-NH₂, (2→7)-lactam
Sequence Shortening: Ac-(Nle)-DH-(d-Phe)-RWK-NH₂, (2→7)-lactam
Target: Others
Pathway: Others
Storage: Powder -80°C 2 years
-20°C 1 year
In solvent -80°C 6 months
-20°C 1 month

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H₂O : 6.67 mg/mL (6.51 mM; Need ultrasonic)</td>
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<tr>
<td>Preparing Stock Solutions</td>
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<tr>
<td>Solvent Concentration</td>
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</tr>
<tr>
<td>1 mM</td>
<td>0.9764 mL</td>
<td>4.8820 mL</td>
<td>9.7639 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.1953 mL</td>
<td>0.9764 mL</td>
<td>1.9528 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>***</td>
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</tbody>
</table>

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

**BIOLOGICAL ACTIVITY**

**Description**
Melanotan (MT)-II, a synthetic melanocortin receptor agonist, is an injectable peptide hormone used to promote tanning.

**In Vitro**
Melanotan (MT)-II is a potent non-selective melanocortin receptor agonist with high affinity for MC1, MC3, MC4, and MC5 receptor subtypes which are involved in the regulation of a number of physiological systems such as the pigmentary system, energy homoeostasis, sexual functioning, the immune system, inflammation, and the cardiovascular system[1].

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

**In Vivo**
Melanotan (MT)-II exerts a dose-dependent inducer activity on erection by eliciting erectile events and shortening latency of the first erectile event to occur. Erectile responses elicited by cavernous nerve stimulation are increased.
after i.v. melanotan (MT)-II (1 mg/kg), thereby exerting facilitator effect on erection\textsuperscript{[2]}. Melanotan (MT)-II promotes peripheral nerve regeneration and has neuroprotective properties in the rat. Melanotan (MT)-II significantly enhances the recovery of sensory function following a crush lesion of the sciatic nerve in the rat at a dose of 20 μg/kg per 48 h, s.c., but not at a dose of 2 or 50 μg/kg\textsuperscript{[3]}. Melanotan (MT)-II is a potent initiator of penile erection in men with erectile dysfunction\textsuperscript{[4]}. Melanotan (MT)-II reduces food intake and body weight and invokes thermogenic responses in a mouse model\textsuperscript{[5]}.

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**PROTOCOL**

**Animal Administration**\textsuperscript{[2][5]}

Rats: To investigate the inducer activity on erection, melanotan (MT)-II or vehicle (saline) is acutely injected i.v., i.t. or within the PVN after a 5 min baseline recording period is obtained. ICP and MAP are then recorded for a 60 min period after saline or melanotan (MT)-II delivery. I.v. injections (three doses; 0.1, 0.3, and 1 mg/kg in saline) are performed with a catheter inserted in the jugular vein\textsuperscript{[2]}.

Mice: Melanotan (MT)-II (0.1 and 0.2 nM) or vehicle (artificial cerebrospinal fluid) is administered. SPA is recorded continuously every 5 min. Food intake measurements are taken 6 and 24 h postinjection. Body weight is measured every 24 h. Chow and water are available ad libitum. A 48-h interval occurs between drug treatments\textsuperscript{[5]}.

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

**REFERENCES**


\textsuperscript{[3]} Ter Laak MP, et al. The potent melanocortin receptor agonist melanotan-II promotes peripheral nerve regeneration and has neuroprotective properties in the rat. Eur J Pharmacol. 2003 Feb 21;462(1-3):179-83.


**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