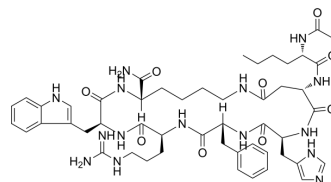


## Melanotan (MT)-II

<b>Cat. No.:</b>	HY-P0267
<b>CAS No.:</b>	121062-08-6
<b>Molecular Formula:</b>	C <sub>50</sub> H <sub>69</sub> N <sub>15</sub> O <sub>9</sub>
<b>Molecular Weight:</b>	1024.18
<b>Sequence:</b>	Ac-{Nle}-Asp-His-{d-Phe}-Arg-Trp-Lys-NH <sub>2</sub> , (2→7)-lactam
<b>Sequence Shortening:</b>	Ac-{Nle}-DH-{d-Phe}-RWK-NH <sub>2</sub> , (2→7)-lactam
<b>Target:</b>	Others
<b>Pathway:</b>	Others
<b>Storage:</b>	Sealed storage, away from moisture
	Powder    -80°C    2 years
	-20°C    1 year



\* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 6.67 mg/mL (6.51 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	0.9764 mL	4.8820 mL	9.7639 mL
	5 mM	0.1953 mL	0.9764 mL	1.9528 mL
	10 mM	---	---	---

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 pigimentary system, energy homeostasis, sexual functioning, the immune system, inflammation, and the cardiovascular system<sup>[1]</sup>. 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<sup>[2]</sup>. 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<sup>[3]</sup>.

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Melanotan (MT)-II is a potent initiator of penile erection in men with erectile dysfunction<sup>[4]</sup>. Melanotan (MT)-II reduces food intake and body weight and invokes thermogenic responses in a mouse model<sup>[5]</sup>.

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

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## PROTOCOL

### Animal Administration <sup>[2][5]</sup>

**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<sup>[2]</sup>.

**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<sup>[5]</sup>.

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

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## REFERENCES

- [1]. Breindahl T, et al. Identification and characterization by LC-UV-MS/MS of melanotan II skin-tanning products sold illegally on the Internet. *Drug Test Anal.* 2015 Feb;7(2):164-72.
- [2]. Giuliano F, et al. Melanotan-II: Investigation of the inducer and facilitator effects on penile erection in anaesthetized rat. *Neuroscience.* 2006;138(1):293-301.
- [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.
- [4]. Wessells H, et al. Melanocortin receptor agonists, penile erection, and sexual motivation: human studies with Melanotan II. *Int J Impot Res.* 2000 Oct;12 Suppl 4:S74-9.
- [5]. De Jonghe BC, et al. Food intake reductions and increases in energetic responses by hindbrain leptin and melanotan II are enhanced in mice with POMC-specific PTP1B deficiency. *Am J Physiol Endocrinol Metab.* 2012 Sep 1;303(5):E644-51.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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