

Melanotan II

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MT-2 (Melanotan II) 10 mg is a synthetic peptide for natural tanning, photoprotection and libido support. Suitable for research use and a popular alternative for people with sensitive or fair skin.

Product Features

Name: Melanotan II

Concentration: 10 mg

Form: Lyophilized (freeze-dried) powder

Purity: $\geq 99\%$ (HPLC verified)

What Is Melanotan II?

Melanotan II (MT-II) is a synthetic cyclic lactam heptapeptide analog of alpha-melanocyte stimulating hormone (α -MSH). Its amino acid sequence is Ac-Nle-cyclo[Asp-His-D-Phe-Arg-Trp-Lys]-NH₂. MT-II was originally developed at the University of Arizona by Dr. Victor Hruby and colleagues as a potential tanning agent to reduce skin cancer risk by stimulating the body's natural melanin production without excessive UV exposure.

What makes Melanotan II unique — and controversial — is its non-selective activation of melanocortin receptors. Unlike Melanotan I (afamelanotide), which selectively targets MC1R for tanning, MT-II activates MC1R through MC5R. This broad receptor profile produces multiple effects: skin tanning via MC1R-driven melanogenesis, sexual arousal and erectile function via MC3R/MC4R activation in the hypothalamus, appetite suppression via MC4R signaling in energy homeostasis pathways, and potential fat loss through altered energy balance.

The sexual function effects of MT-II were so pronounced in early clinical trials that they led to the development of PT-141 (bremelanotide) — a derivative of MT-II specifically optimized for MC4R activation. PT-141 is now FDA-approved as Vyleesi for hypoactive sexual desire disorder (HSDD) in premenopausal women, making it the only melanocortin-based drug approved for sexual function.

Key Characteristics:

Non-selective melanocortin agonist — activates MC1R through MC5R, producing tanning, sexual arousal, appetite suppression, and energy homeostasis effects

Cyclic heptapeptide — Ac-Nle-cyclo[Asp-His-D-Phe-Arg-Trp-Lys]-NH₂ — cyclic structure provides enhanced receptor binding and metabolic stability

Primary effect: melanogenesis — MC1R activation stimulates melanocytes to produce eumelanin (brown/black pigment), darkening the skin with minimal UV exposure

Sexual function effects — MC3R/MC4R activation in the hypothalamus increases libido, sexual arousal, and erectile function — the basis for PT-141 development

Appetite suppression — MC4R activation in energy homeostasis pathways reduces appetite and may contribute to fat loss over time

Half-life ~2–3 hours — effects on melanogenesis are cumulative; tanning develops over days to weeks of loading

How Melanotan II Dosage Is Determined

Important: The information below describes schedules used in research on Melanotan II. It is provided for scientific and informational purposes and does not constitute a recommendation for individual use, medical advice or administration instructions. The research-grade Melanotan II offered by PurePepHub is not a registered medicine.

Melanotan II dosing is derived from Phase I/II clinical trials conducted at the University of Arizona and subsequent studies, supplemented by extensive community experience accumulated over two decades of use. The loading-then-maintenance approach is well-established and reflects the pharmacodynamics of melanogenesis — melanin production must be “primed” with consistent stimulation before it can be sustained with infrequent dosing.

Clinical Dose-Response Studies

Early clinical trials at the University of Arizona demonstrated that subcutaneous MT-II at doses of 0.01–0.025 mg/kg produced measurable increases in skin melanin density (measured by reflectance spectrophotometry) within 5–14 days. Dose-dependent tanning was observed, with higher doses producing faster and darker results but also more pronounced side effects — particularly nausea. These studies established the therapeutic window: doses below 0.25 mg produce minimal tanning; doses above 1 mg per injection produce diminishing returns with substantially increased nausea and flushing.

Loading vs. Maintenance Pharmacology

Melanogenesis is not an instantaneous process. MT-II activates MC1R on melanocytes, upregulating tyrosinase and other enzymes in the melanin synthesis pathway. This “priming” requires consistent daily stimulation over 2–4 weeks to produce visible results. Once melanocytes are fully activated and melanin levels are elevated, much less frequent dosing (1–2x per week) is sufficient to maintain the tan. This biological reality is the basis for the loading/maintenance protocol.

Nausea and Side Effect Profile

Nausea is the dose-limiting side effect of MT-II. Clinical studies confirmed that nausea is caused by central melanocortin receptor activation (MC3R/MC4R) in brainstem emetic centers. It is dose-dependent and most severe during the first 3–7 days of use, after which tolerance develops. The standard practice of starting at 0.25 mg and injecting before bed was developed to minimize this initial nausea period. Some users also take an antihistamine (such as diphenhydramine or cetirizine) 30 minutes prior to injection to reduce nausea and flushing.

Standard Melanotan II Dosage Ranges

Melanotan II is administered by subcutaneous injection, typically in the abdominal fat pad. Dosing follows a two-phase protocol: a daily loading phase to initiate melanogenesis, followed by a reduced-frequency maintenance phase. All doses below are in milligrams (mg), not micrograms. MT-II is dosed in the 0.25–1 mg range, which is significantly higher than most peptides dosed in micrograms.

Loading Phase

Level	Dose per Injection	Frequency	Duration	Notes
Starting / Conservative	0.25 mg	Once daily (before bed)	2–4 weeks	Recommended for all users; minimizes nausea and flushing while assessing tolerance
Standard	0.5 mg	Once daily (before bed)	2–3 weeks	Most common loading dose after initial tolerance assessment; faster results but more nausea
Aggressive	0.5–1 mg	Once daily (before bed)	1–2 weeks	For those who have tolerated lower MT-II doses without nausea; significant nausea likely at 1 mg; not recommended for first-time users

Maintenance Phase

Level	Dose per Injection	Frequency	Duration	Notes
Starting	0.25 mg	Once daily (before bed)	2–4 weeks	Recommended for all users; minimizes nausea and flushing while assessing tolerance
Standard	0.5 mg	Once daily (before bed)	2–3 weeks	Most common loading dose after initial tolerance assessment; faster results but more nausea
Aggressive	0.5–1 mg	Once daily (before bed)	1–2 weeks	For those who have tolerated lower MT-II doses without nausea; significant nausea likely at 1 mg; not recommended for first-time users

Injection Timing

Before bed is the gold standard: Injecting 30–60 minutes before sleep allows you to sleep through the peak nausea period (30–90 minutes post-injection)

On an empty or light stomach: A full stomach can worsen nausea. Inject at least 1–2 hours after eating

UV exposure timing: For maximum tanning effect, get brief UV exposure (10–20 minutes) the day after injection or within 24 hours of the dose

Consistency during loading: Daily injection at the same time during the loading phase produces the most uniform results

Safety, Side Effects & Contraindications

Common Side Effects

Dose-dependent and generally transient:

Nausea — nearly universal at initiation. Caused by central MC3R/MC4R activation.

Dose-dependent, peaks in the first 2–3 days, and typically resolves within 3–7 days as tolerance develops.

Facial flushing — very common. Warmth and redness in the face, typically 15–45 minutes post-injection, lasting 1–2 hours. Caused by MC1R effects on vasculature.

Appetite suppression — common. MC4R-mediated reduction in hunger. Most pronounced during loading phase.

Spontaneous erections (men) — common, especially during loading. Caused by MC3R/MC4R activation. Can occur hours after injection.

Increased libido — common in both men and women. MC3R/MC4R hypothalamic activation.

Injection site reactions — mild redness, itching, or localized darkening at injection site.

Fatigue and yawning — some users report sleepiness post-injection, which complements the before-bed injection strategy.

Less common but clinically significant:

New nevi (moles) — MT-II can cause new moles to appear. Any new mole requires dermatological evaluation.

Darkening or enlargement of existing moles — existing nevi may darken, enlarge, or change shape. Must be monitored by a dermatologist.

Freckle darkening — pre-existing freckles frequently darken more quickly than surrounding skin, especially in fair-skinned individuals.

Blood pressure changes — mild transient increases have been reported; relevant for those with pre-existing hypertension.

Headache — occasional, usually in the first few days of use.

Mole Monitoring — Critical Safety Requirement

Mandatory Monitoring Protocol:

Baseline skin exam before starting MT-II — Photograph all existing moles before your first injection. Use a dermatoscope app or visit a dermatologist for a baseline full-body skin exam. This provides a reference for detecting any changes.

Monthly self-exams during use — Check all moles monthly using the ABCDE criteria: Asymmetry, Border irregularity, Color variation, Diameter >6mm, Evolving (any change in size, shape, or color). Compare to your baseline photographs.

Annual dermatological screening — All MT-II users should have an annual professional skin exam by a dermatologist. Inform your dermatologist that you use Melanotan II so they can provide appropriate monitoring.

Immediate evaluation of any changes — Any new mole, or any change in an existing mole (darkening, enlargement, border irregularity, itching, bleeding), warrants immediate dermatological evaluation. Do not wait for your scheduled annual exam.

Contraindications

History of melanoma or atypical moles (dysplastic nevi) — absolute contraindication. Stimulating melanocyte activity in individuals predisposed to melanocyte malignancy is an unacceptable risk.

Family history of melanoma — strong contraindication. First-degree relatives with melanoma significantly elevates your personal risk.

Pregnancy and breastfeeding — no safety data exists. Avoid entirely. Melanocortin receptors are expressed in fetal tissue.

Active skin cancer of any type — MT-II should not be used with any active cutaneous malignancy.

Addison's disease or adrenal insufficiency — melanocortin signaling is involved in adrenal function; MT-II could complicate existing adrenal conditions.

Uncontrolled hypertension — MT-II can cause transient blood pressure elevation. Monitor carefully if used with pre-existing hypertension.

Autoimmune conditions affecting the skin — conditions like vitiligo, lupus, or dermatomyositis may be unpredictably affected by melanocyte stimulation.

When to Stop or Reduce Dose

- Any new mole or change in an existing mole — stop immediately and consult a dermatologist
- Severe or persistent nausea that does not improve after 10–14 days at the lowest dose (0.25 mg)
- Significant uneven darkening or hyperpigmentation that concerns you
- Persistent blood pressure elevation above your baseline
- Severe headaches that do not resolve within the first week
- Any symptom that feels unusual or concerning — err on the side of caution