

MELANOCORTIN PEPTIDE · TANNING · LIBIDO · FAT LOSS

# MELANOTAN II

Tan · Desire · Lean Body · Vitality

The synthetic alpha-MSH analogue that activates your melanocortin system for deep, lasting skin pigmentation and more.

## MC1R

Tanning Receptor

## MC4R

Libido & Appetite

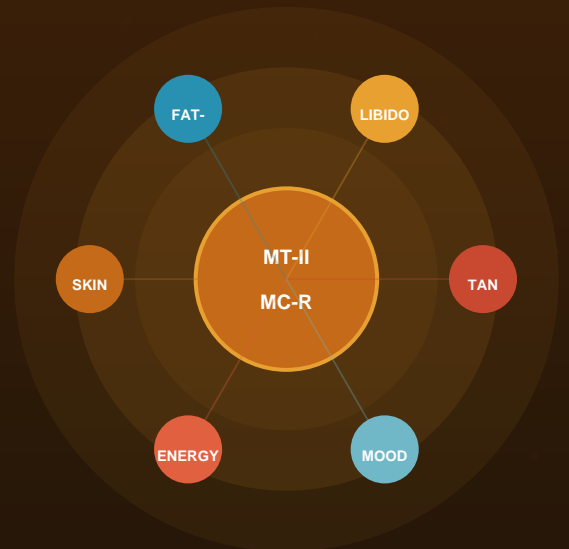
## 7

Peptide Residues

## SC/IN

Routes

### EFFECTS MAP



# What is Melanotan II?

A synthetic alpha-MSH analogue acting on melanocortin receptors throughout the body

**Melanotan II (MT-II) is a cyclic heptapeptide analogue of alpha-melanocyte-stimulating hormone (alpha-MSH), developed at the University of Arizona in the 1980s.**

Originally conceived as a sunless tanning agent to reduce UV-related skin cancer risk, MT-II activates MC1R receptors in melanocytes — triggering melanin synthesis that produces a deep, natural-appearing tan without sun exposure.

Its structural stability over natural alpha-MSH (which degrades within minutes) gives MT-II a multi-hour active window, making it a uniquely potent melanocortin agonist for research.

## CYCLIC HEPTAPEPTIDE SEQUENCE

Ac-Nle-cyclo[Asp-His-D-Phe-Arg-Trp-Lys]-OH

MW: 1024.19 g/mol | Formula: C<sub>50</sub>H<sub>69</sub>N<sub>15</sub>O<sub>9</sub>

**Beyond tanning, Melanotan II engages four additional melanocortin receptor subtypes with wide-ranging effects.**

MC3R and MC4R activation in the hypothalamus modulates appetite, energy balance, and sexual function — explaining MT-II's pronounced effects on libido and spontaneous arousal in both men and women.

MC4R-mediated anorectic signalling reduces appetite and promotes fat oxidation, while central MC4R activation produces mood-enhancing and mild stimulant-like effects distinct from traditional psychostimulants.

MT-II's broad receptor profile distinguishes it from its descendant PT-141 (bremelanotide), which was designed to isolate the sexual function pathway while reducing tanning and nausea side effects.

## MELANOCORTIN RECEPTOR PROFILE



& melanin  
Skin tanning



& inflammation  
Energy balance



& mood  
Libido, appetite



& sebum  
Exocrine glands

# Key Benefits

MT-II's multi-receptor action delivers a spectrum of well-documented effects

## Deep Skin Tanning

MC1R activation drives sustained melanin synthesis in melanocytes, producing a rich, even tan without UV radiation. Effects accumulate over days and persist for weeks after last dose.

## Enhanced Libido

Hypothalamic MC4R activation produces reliable pro-sexual effects in both men and women — including spontaneous arousal, heightened sensitivity, and improved sexual satisfaction.

## Appetite Suppression

MC4R-mediated anorectic signalling in the paraventricular nucleus reliably reduces caloric intake and promotes fat oxidation — effects replicated across multiple rodent and human studies.

## Mood Enhancement

Central melanocortin activation produces mild stimulant-like and mood-elevating effects, with users reporting heightened sociability, motivation, and mild euphoria distinct from stimulant compounds.

## UV Protection Support

By pre-loading melanin in skin cells before sun exposure, MT-II provides an additional layer of photoprotection — the original research intent when developed at U of Arizona.

## Body Composition

The combined effects of appetite suppression, increased energy expenditure via MC4R, and preferential fat oxidation make MT-II of significant interest for body recomposition research.

### MT-II vs. PT-141 (Bremelanotide) vs. UV Tanning



# Research & Dosing

Key research milestones in melanocortin peptide science

19  
87

## 1987 Alpha-MSH Analogue Discovery

University of Arizona researchers synthesised MT-II seeking a peptide with prolonged melanocyte-stimulating activity. Cyclic structure provided both stability and potency far exceeding natural alpha-MSH.

19  
95

## 1995 Phase I Tanning Trials

Human trials confirmed reliable induction of melanin synthesis following subcutaneous MT-II. Subjects achieved significant tanning with minimal UV exposure, validating the anti-skin cancer hypothesis.

20  
00

## 2000 Sexual Function Discovery

Unexpected observation: male subjects in tanning trials reported spontaneous erections. Mechanistic studies identified hypothalamic MC4R as the target, spawning the PT-141 development programme.

20  
08

## 2008 Appetite & Body Composition

Controlled studies demonstrated dose-dependent appetite suppression and increased energy expenditure via MC4R, with preferential reduction of abdominal fat in animal models.

20  
15

## 2015 Comparative Receptor Profiling

Comprehensive MC1R-MC5R binding studies confirmed MT-II's broad receptor activation versus the selective MC4R profile of PT-141, explaining the more diverse effect profile.

## Dosing Protocol

Route	Subcutaneous injection
Loading Dose	0.25–0.5 mg daily
Maintenance	0.5–1 mg every 2–3 days
Tanning	Pair with brief UV exposure
Libido	0.5–1 mg 2h before activity
Onset	30–60 minutes
Duration	6–12 hours of peak effect
Storage	Lyophilised, refrigerated

Research use only. Not approved for human therapeutic use. Consult a physician before any use.

Class Cyclic heptapeptide

Origin U of Arizona, 1980s

MW 1024.19 g/mol

Formula C50H69N15O9

Route SC / Intranasal

# Embrace the Sun Within.

Melanotan II harnesses your body's own melanocortin system — the ancient signalling network that governs skin colour, desire, appetite, and vitality — through a single, potent peptide.



## TAN

melanin pigmentation  
Deep, lasting



## DESIRE

& sexual vitality  
Central libido



## LEAN

& fat oxidation  
Appetite control

ORDER NOW

LEARN MORE

FREE SAMPLE

## MELANOTAN II

[www.melanotan2-research.com](http://www.melanotan2-research.com) · [info@mt2institute.com](mailto:info@mt2institute.com) · +1 (800) 635-8846

For research purposes only. Melanotan II is not approved as a therapeutic drug. Use only under physician supervision.

Always consult a licensed healthcare professional before beginning any peptide protocol.