

Melanotan II — Research Summary

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1. What It Is

Melanotan II is a synthetic cyclic heptapeptide analog of α -MSH that non-selectively activates MC1R, MC3R, MC4R, and MC5R — unlike the MC1R-selective afamelanotide (Melanotan I). This non-selective receptor activation produces its characteristic mix of tanning, appetite, and sexual-arousal effects, and its dose-limiting side effects (nausea, flushing, spontaneous erections via MC4R activation).

2. Reported Effects in Research Literature

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- Human data: Early Phase I human studies (Dorr et al., 1996, and related work) confirmed skin tanning and erection induction alongside dose-limiting nausea and flushing in small cohorts.
- Human data (case reports/safety literature, not efficacy trials): Multiple published case reports associate self-administered Melanotan II with melanoma (including a 2025 mucosal melanoma case report following nasal-spray use), dysplastic nevus eruption, priapism requiring surgical intervention, rhabdomyolysis, renal infarction, and posterior reversible encephalopathy syndrome.
- No completed Phase 2 or Phase 3 efficacy trials exist for Melanotan II for any indication; its human-relevant literature is dominated by small early-phase pharmacology studies and post-market case reports of adverse events from unsupervised use, not controlled efficacy research.

3. Clinical & Preclinical Study References

Dorr RT, et al. Increased skin pigmentation and other effects of the superpotent melanotropic peptide melanotan-II. J Am Acad Dermatol. (Foundational Phase I data.)

Habbema L, et al. Risks of unregulated use of alpha-melanocyte-stimulating hormone analogues: a review. Int J Dermatol. 2017.

Yassin Alsabbagh, Bhujel, et al. Mucosal malignant melanoma following Melanotan II nasal spray use: case report. Int J Oral Maxillofac Surg. 2025.

Regulatory/Safety Note: Melanotan II has NO approved indication anywhere in the world and is explicitly named in FDA warnings about unauthorized "tanning injection" products. Published case reports associate self-administration outside clinical supervision with melanoma, dysplastic nevus eruption, priapism, rhabdomyolysis, renal infarction, and posterior reversible encephalopathy syndrome — the most serious documented human-harm signal of any compound in this set.

This compound has not been evaluated by the FDA and is not intended to diagnose, treat, cure, or prevent any disease in humans or animals.

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