

MT-1 (Melanotan I)

History and Background

Melanotan I (MT-1), also known as Afamelanotide, is a synthetic analogue of alpha-melanocyte-stimulating hormone (α -MSH). It was originally developed at the University of Arizona in the 1980s as a potential treatment for skin cancer by inducing protective tanning without UV exposure. MT-1 was later studied for erythropoietic protoporphyria (EPP), a rare genetic disorder causing extreme sun sensitivity. It was approved in Europe and Australia (as Scenesse) for EPP treatment. MT-1 produces skin tanning and darkening without significant side effects, unlike its derivative MT-2.

Primary Uses

MT-1 is used for UV-protective tanning without sun exposure, treatment of erythropoietic protoporphyria (EPP), reduction of sun damage and photoaging, enhanced melanin production, cosmetic tanning and skin darkening, protection against skin cancer (via enhanced melanin), improved skin pigmentation in vitiligo, overall skin protection, aesthetic enhancement, and medical photoprotection.

How It Works

MT-1 works by binding to melanocortin-1 receptors (MC1R) on melanocytes, the cells responsible for producing melanin (skin pigment). Activation of MC1R stimulates the production and distribution of eumelanin, the brown/black pigment that provides photoprotection. This results in skin darkening and tanning without UV exposure. The increased melanin acts as a natural sunscreen, absorbing UV radiation and protecting against DNA damage. Unlike MT-2, MT-1 is selective for MC1R and does not significantly activate other melanocortin receptors, resulting in fewer side effects (no libido effects, less nausea).

Standard Protocol

Dosing: Loading: 1mg daily for 7-10 days to build tan. Maintenance: 1mg 2-3x weekly to sustain color. Some use 0.5-1mg per dose depending on desired darkness.

Administration: Subcutaneous injection. Comes as lyophilized powder requiring reconstitution with bacteriostatic water. Inject into abdomen or thigh. Prescribed MT-1 (Scenesse) is an implant.

Timing: Can be injected any time of day. Evening dosing may reduce initial nausea. Consistent schedule recommended for maintenance phase.

Titration Schedule:

Loading Phase: 1mg daily for 7-10 days (subcutaneous)

Maintenance Phase: 1mg 2-3x weekly to maintain tan

Medical (EPP): 16mg implant every 2 months (prescribed form)

Duration: Loading phase followed by ongoing maintenance for sustained tan

Duration: Loading phase: 7-10 days. Maintenance: Ongoing as long as tan is desired. Tan fades gradually if discontinued (4-8 weeks).

What to Expect

Positive Effects (Week 1-2)

Progressive skin darkening and tanning over 7-10 days. Natural-looking tan without sun or tanning beds. Enhanced photoprotection and reduced sunburn risk. Reduced UV damage and photoaging. Potential reduction in skin cancer risk. Minimal side effects compared to MT-2. Tan maintained with infrequent dosing.

Timeline to Results

Initial darkening: 3-5 days (subtle). Noticeable tan: 7-10 days (moderate bronze). Full tan: 2-3 weeks (deep color). Maintenance: 2-3x weekly dosing sustains tan indefinitely. Tan fades over 4-8 weeks if discontinued.

Dose Response

1mg daily during loading produces good tan in most skin types. Higher doses (1.5-2mg) produce darker tan faster. Maintenance doses can be adjusted based on desired color. Very light skin types may need longer loading.

Pros

- Produces natural-looking tan without UV exposure
- Provides photoprotection against sun damage
- FDA/EMA-approved for EPP (as Scenesse implant)
- Fewer side effects than MT-2 (no libido effects)
- Reduces risk of sunburn and skin cancer
- Selective for MC1R (fewer off-target effects)
- Tan maintained with infrequent dosing (2-3x weekly)
- Well-tolerated in clinical trials
- Useful for people who cannot tan naturally
- Aesthetic and medical applications

Cons

- Requires injections (subcutaneous)
- Initial nausea common (usually mild, subsides)
- Darkens existing moles and freckles
- May cause new freckles or spots
- Not FDA-approved for cosmetic tanning (only EPP)
- Expensive compared to sun/tanning beds
- Individual response varies by skin type
- Tan is not instant (takes 7-10 days)

Requires ongoing maintenance dosing
Some users experience facial flushing

Who Should Consider It

Individuals with EPP or severe sun sensitivity, those seeking protective tan without UV exposure, people at high risk for skin cancer, individuals who cannot tan naturally (very fair skin), those wanting cosmetic tanning without sun damage, people concerned about photoaging, individuals living in low-sun climates, users seeking medical-grade tanning peptide.

Who Should Avoid It

Pregnant or breastfeeding women, individuals with melanoma or skin cancer history (controversial—consult oncologist), people with numerous or atypical moles (may darken), those with liver or kidney disease, individuals seeking immediate overnight tanning, people uncomfortable with injections, those with unrealistic expectations.

MT-1 (Afamelanotide) is FDA/EMA-approved as Scenesse for EPP treatment only, not for cosmetic tanning. Compounded MT-1 for cosmetic use is not FDA-approved. For research purposes only. Does not eliminate need for sunscreen. May darken existing moles—regular dermatology screening recommended. Individual results vary. This information is for educational purposes only.