

Melanotan 1 and Melanotan 2

Melanotan 1

Overview

Melanotan 1 is a synthetic peptide that mimics the action of alpha-melanocyte-stimulating hormone (α -MSH), a naturally occurring hormone in the body responsible for stimulating the production of melanin—the pigment that gives skin its color. By activating melanocytes, the cells that produce melanin, Melanotan 1 can increase skin pigmentation, leading to a tanning effect without as much exposure to ultraviolet (UV) radiation.

How Does Melanotan 1 Work?

- **Melanin Production:** Melanotan 1 binds to melanocortin receptors on melanocytes, stimulating them to increase melanin production. Melanin acts as a natural barrier, absorbing and dissipating UV radiation, leading to skin darkening (a tan).
 - **Sun Protection:** By increasing melanin levels, Melanotan 1 offers a degree of protection from UV rays, as more melanin means the skin has a better ability to protect itself from sun damage.
 - **Cosmetic Tanning:** People use Melanotan 1 to achieve a tanned look without needing as much sun exposure, which can reduce the risks associated with prolonged UV exposure, such as skin cancer and sunburn.
-

Potential Benefits

1. Increased Melanin Production and Tanning

- **Enhanced Tan:** The primary benefit of Melanotan 1 is its ability to increase melanin production, leading to a deeper, more prolonged tan with less sun exposure.
- **Uniform Skin Tone:** It may help achieve a more even skin tone by promoting consistent melanin distribution.

2. Reduced Need for Sun Exposure

- **UV Protection:** By boosting melanin levels, Melanotan 1 can provide an added layer of natural protection against UV rays. This can potentially reduce the risks of sunburn and long-term sun damage.
- **Less Sunbathing:** Users can achieve a tanned appearance without spending long hours in the sun, which helps limit UV-related skin damage and aging.

3. Potential Therapeutic Applications

- **Photosensitivity Disorders:** Melanotan 1 has been studied for conditions like erythropoietic protoporphyria (EPP), a rare genetic disorder that makes skin extremely sensitive to sunlight. By increasing melanin, it can reduce symptoms and allow individuals to tolerate sunlight better.
- **Vitiligo Research:** Though not conclusive, some research suggests potential use in helping manage conditions like vitiligo by promoting repigmentation in affected areas.

4. Cosmetic Appeal

- **Maintained Tan:** For those who desire a tan year-round, Melanotan 1 offers the possibility of maintaining that appearance with minimal UV exposure.
- **Appearance Confidence:** Some users report increased self-esteem and confidence due to a tanned appearance, which may contribute to perceived attractiveness and a feeling of well-being.

5. Convenience

- **Alternative to Tanning Beds:** Melanotan 1 provides an option for those who prefer not to use tanning beds, which can come with their own health risks, such as increased skin cancer likelihood and premature skin aging.

Potential Side Effects

Common Side Effects

- **Nausea and Vomiting:** One of the most frequently reported side effects is nausea, which can sometimes be accompanied by vomiting. This is more common with Melanotan 1.
- **Flushing:** A temporary redness or warmth of the skin.
- **Appetite Changes:** Some users report decreased appetite, which may lead to weight loss.
- **Increased Freckles and Moles:** Darkening or the appearance of new freckles or moles is common, as Melanotan 1 stimulates melanocytes.
- **Hyperpigmentation:** Some areas of the skin, such as pre-existing moles or dark spots, may become darker than the surrounding skin.
- **Stomach cramp after injection**

Less Common but Notable Side Effects

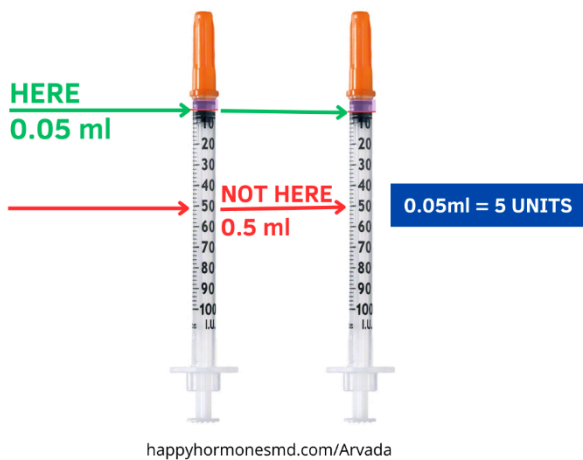
- **Fatigue:** Some users may experience general tiredness or fatigue.

- **Headaches:** Occasional headaches have been reported.
- **Dizziness:** Some users have experienced temporary changes in blood pressure, leading to feelings of lightheadedness or dizziness.
- **Darkening of Lips and Gums:** Some users notice changes in pigmentation in areas other than skin, such as the lips or gums.

Dosage Guidelines

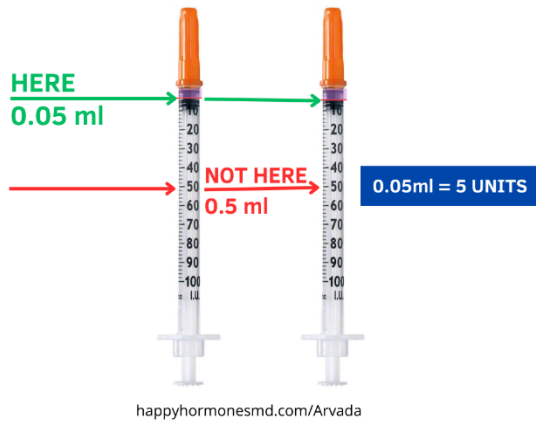
Protective Dose: 0.25mg (0.05ml or 5 units) injected subcutaneously (SQ) 30 minutes before sun exposure. If you experience intolerable side effects, try a lower dose.

0.05ml - 5 units (Not 50 UNITS)

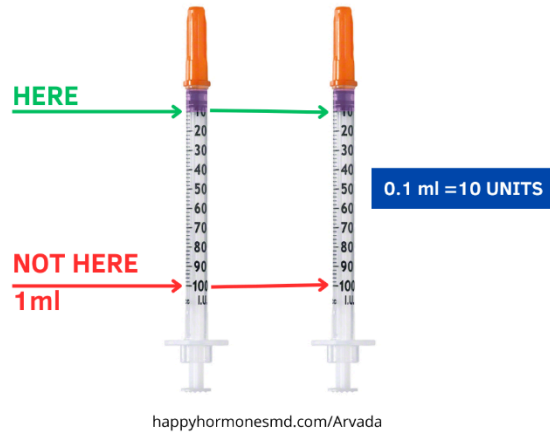


Maintenance dose: 0.25mg (0.05ml or 5 units) to 0.5mg (0.1ml or 10 units) injected subcutaneously (SQ) daily for 10 days, then 1-2 times per week to maintain pigmentation. If you experience intolerable side effects, try a lower dose.

0.05ml - 5 units (Not 50 UNITS)



0.1 ml - 10 units (Not 100 UNITS)



Cost

Melanotan 1 is currently only available as a research peptide. Please see document titled “Research Peptide Information” in the Education Folder under Records in the patient portal.

Melanotan 1 10mg Vial (5mg/ml): \$98.50 (Includes shipping and bacteriostatic water for reconstitution). One vial provides: 20-40 doses.

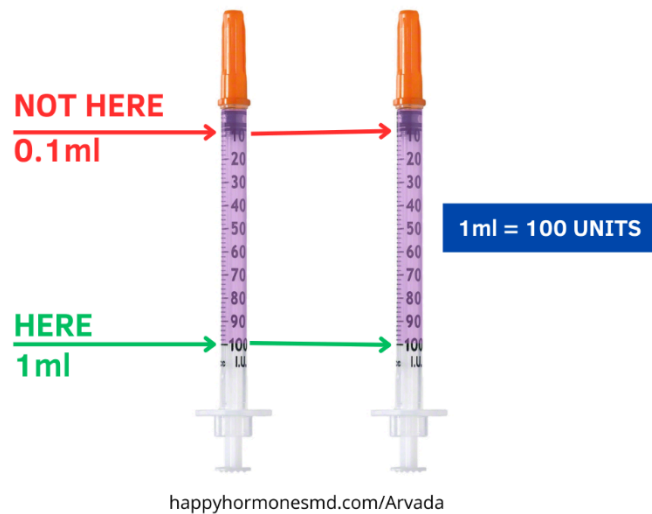
Reconstitution Instructions

IMPORTANT:

- Follow the instructions below regarding the amount of bacteriostatic water to use when reconstituting the peptide. DO NOT follow the instructions that come with the peptide.
- Do NOT throw away the vial of bacteriostatic water!!! It is a multiuse vial and can be used for your next order!

Inject **2 ml of bacteriostatic water** into the vial of powder (**2 ml = 200 units**). You will need to inject 2 full 1ml syringes of water into the vial.

1 ml - 100 units (Not 10 UNITS)



- See the **document** titled “*Reconstituting Medications in Powder Form*” in the Education Folder in the patient portal.
- See the following Instructional **videos** in the Education Folder in the patient portal:
 - “*Reconstituting Powdered Medications*”
 - “*Injection Video – Introduction*”
 - “*Injection Video – Drawing Up the Medication*”
 - “*Injection Video – Administering the Medication*”

Important Disclosures

- These statements have not been evaluated by the US Food and Drug Administration (FDA).
- Not intended to diagnose, treat, cure, or prevent any disease.
- Compounded drugs and research peptides are not FDA-approved but are produced under strict quality control measures.

Storage and Stability

- Vials are shipped as lyophilized powder, requiring no refrigeration during shipping.
- In Lyophilized Form:
 - Stable for up to 3 years in the freezer and 2 years in the refrigerator.

- Protect from light.
 - Once Reconstituted:
 - Stable for 6 weeks.
 - Must be refrigerated and kept away from light.
 - Avoid placing vials in the refrigerator door to prevent degradation from frequent temperature changes.
-

Quality Assurance

- All research peptides are subjected to third-party testing with publicly available Certificates of Analysis (COA).
- Testing includes:
 - RP-HPLC (Reversed-Phase High-Performance Liquid Chromatography)
 - Mass Spectrometry (MS)
 - Sterility Testing
 - Additional tests meeting or exceeding U.S. Pharmacopeia (USP) and USP-National Formulary (NF) regulations.

The manufacturer ensures quality, safety, and efficacy, complying with regulatory standards.

Melanotan 2

Overview

Melanotan 2 (MT-2) is another synthetic analogue of the naturally occurring alpha-melanocyte-stimulating hormone (α -MSH). Like Melanotan 1, Melanotan 2 stimulates melanocytes to produce melanin, which darkens the skin. However, Melanotan 2 is chemically distinct from Melanotan 1 and has different properties and effects.

How Does Melanotan 2 Work?

Melanotan 2 works similarly to Melanotan 1 by binding to melanocortin receptors, particularly the MC1R receptor on melanocytes. This stimulation results in increased melanin production, leading to skin pigmentation. However, MT-2 also binds to other melanocortin receptors, which can result in a broader range of effects.

Key Differences Between Melanotan 1 and 2

- **Potency:** Melanotan 2 is generally considered more potent than Melanotan 1. It requires lower doses to achieve similar tanning effects.

- **Duration:** The effects of Melanotan 2 tend to last longer, which may lead to prolonged tanning with less frequent dosing.
-

Potential Benefits

1. Increased Melanin Production and Tanning

- **Enhanced Tan:** The primary benefit of Melanotan 2 is its ability to increase melanin production, leading to a deeper, more prolonged tan with less sun exposure.
- **Uniform Skin Tone:** It may help achieve a more even skin tone by promoting consistent melanin distribution.

2. Reduced Need for Sun Exposure

- **UV Protection:** By boosting melanin levels, Melanotan 2 can provide an added layer of natural protection against UV rays. This can potentially reduce the risks of sunburn and long-term sun damage.
- **Less Sunbathing:** Users can achieve a tanned appearance without spending long hours in the sun, which helps limit UV-related skin damage and aging.

3. Potential Therapeutic Applications

- **Photosensitivity Disorders:** Melanotan 2 has been studied for conditions like erythropoietic protoporphyria (EPP), a rare genetic disorder that makes skin extremely sensitive to sunlight. By increasing melanin, it can reduce symptoms and allow individuals to tolerate sunlight better.
- **Vitiligo Research:** Though not conclusive, some research suggests potential use in helping manage conditions like vitiligo by promoting repigmentation in affected areas.

4. Cosmetic Appeal

- **Maintained Tan:** For those who desire a tan year-round, Melanotan 2 offers the possibility of maintaining that appearance with minimal UV exposure.
- **Appearance Confidence:** Some users report increased self-esteem and confidence due to a tanned appearance, which may contribute to perceived attractiveness and a feeling of well-being.

5. Convenience

- **Alternative to Tanning Beds:** Melanotan 2 provides an option for those who prefer not to use tanning beds, which can come with their own health risks, such as increased skin cancer likelihood and premature skin aging.

6. Improved Libido and Sexual Function

- **Libido Enhancement:** Melanotan 2 is known to have aphrodisiac effects due to its action on melanocortin receptors that are involved in sexual arousal. This can be beneficial for individuals dealing with low libido or erectile dysfunction.
 - **Treatment for Sexual Dysfunction:** Some studies have explored MT-2 as a potential treatment for erectile dysfunction, showing that it can induce erections and enhance sexual arousal in men.
-

Potential Side Effects

Common Side Effects

Melanotan 2 is associated with more side effects compared to Melanotan 1. These can include stronger nausea, flushing, and the potential for spontaneous erections (due to its action on the MC4R receptor, which is involved in sexual arousal).

- **Nausea and Vomiting:** One of the most frequently reported side effects is nausea, which can sometimes be accompanied by vomiting.
- **Flushing:** A temporary redness or warmth of the skin.
- **Appetite Changes:** Some users report decreased appetite, which may lead to weight loss.
- **Increased Freckles and Moles:** Darkening or the appearance of new freckles or moles is common, as Melanotan 2 stimulates melanocytes.
- **Hyperpigmentation:** Some areas of the skin, such as pre-existing moles or dark spots, may become darker than the surrounding skin.
- **Stomach cramp after injection**

Less Common but Notable Side Effects

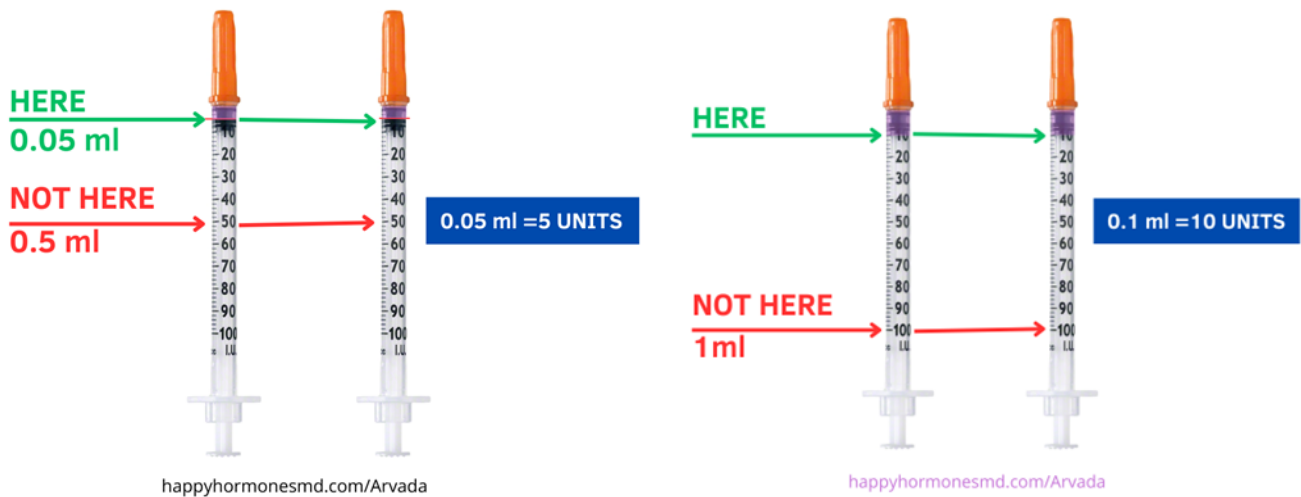
- **Fatigue:** Some users may experience general tiredness or fatigue.
- **Headaches:** Occasional headaches have been reported.
- **Dizziness:** Some users have experienced temporary changes in blood pressure, leading to feelings of lightheadedness or dizziness.
- **Darkening of Lips and Gums:** Some users notice changes in pigmentation in areas other than skin, such as the lips or gums.

Unique Side Effects

- **Spontaneous Erections:** Melanotan 2 has a well-documented effect on the melanocortin receptors involved in sexual function, leading to spontaneous erections and increased libido, which can be unwanted or embarrassing for some users.
- **Libido Increase:** This side effect can be beneficial for those seeking it but problematic if it occurs at inconvenient times or when not desired.

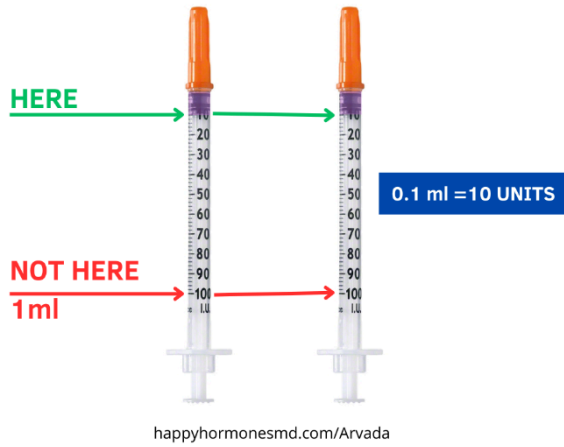
Dosage Guidelines

Loading phase: 0.25mg (0.05ml or 5 units) to 0.5mg (0.1ml or 10 units) injected subcutaneously (SQ) daily for the first few days (3-5 days) until desired pigmentation is achieved. If you experience intolerable side effects, try a lower dose.

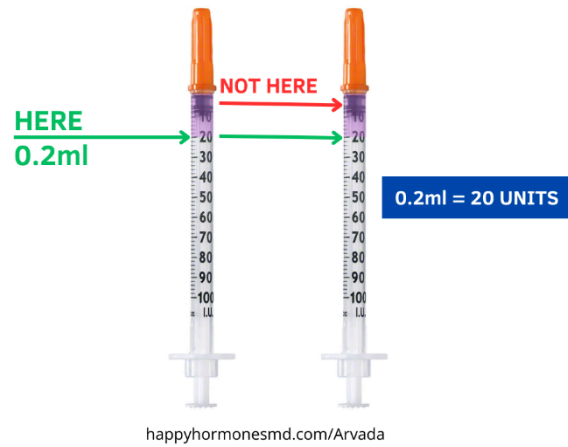


Maintenance dose: 0.5mg (0.1ml or 10 units) to 1 mg (0.2ml or 20 units) injected subcutaneously (SQ) 1-2 times per week to maintain pigmentation. If you experience intolerable side effects, try a lower dose.

0.1ml - 10 units (Not 100 UNITS)



0.2ml - 20 units (Not 2 units)



Cost

Melanotan 2 is currently only available as a research peptide. Please see document titled “Research Peptide Information” in the Education Folder under Records in the patient portal.

Melanotan 2 10mg Vial (5mg/ml): \$98.50 (Includes shipping and bacteriostatic water for reconstitution). One vial provides: 10-40 doses, depending on how much you use.

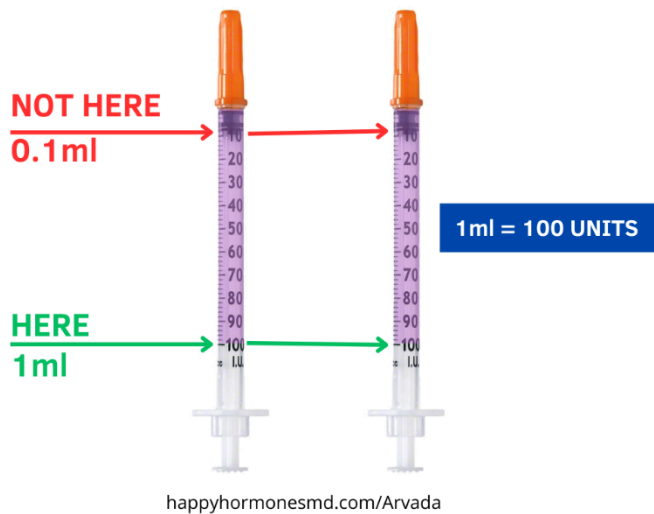
Important Disclosures

- These statements have not been evaluated by the US Food and Drug Administration (FDA).
- Not intended to diagnose, treat, cure, or prevent any disease.
- Compounded drugs and research peptides are not FDA-approved but are produced under strict quality control measures.

Reconstitution Instructions

Inject **2 ml of bacteriostatic water** into the vial of powder (**2ml = 200 units**). You will need to inject 2 full 1ml syringes of water into the vial.

1 ml - 100 units (Not 10 UNITS)



- See the document titled *“Reconstituting Medications in Powder Form”* in the Education Folder in the patient portal.
- See the following Instructional videos in the Education Folder in the patient portal:
 - *“Reconstituting Powdered Medications”*
 - *“Injection Video – Introduction”*
 - *“Injection Video – Drawing Up the Medication”*
 - *“Injection Video – Administering the Medication”*

Storage and Stability

- Vials are shipped as lyophilized powder, requiring no refrigeration during shipping.
- In Lyophilized Form:
 - Stable for up to 3 years in the freezer and 2 years in the refrigerator.
 - Protect from light.
- Once Reconstituted:
 - Stable for 6 weeks.
 - Must be refrigerated and kept away from light.

- Avoid placing vials in the refrigerator door to prevent degradation from frequent temperature changes.
-

Quality Assurance

- All research peptides are subjected to third-party testing with publicly available Certificates of Analysis (COA).
- Testing includes:
 - RP-HPLC (Reversed-Phase High-Performance Liquid Chromatography)
 - Mass Spectrometry (MS)
 - Sterility Testing
 - Additional tests meeting or exceeding U.S. Pharmacopeia (USP) and USP-National Formulary (NF) regulations.

The manufacturer ensures quality, safety, and efficacy, complying with regulatory standards.
