

## ***Libido***

### **Melanotan II**

Melanotan II (MT2) is a stimulating peptide which induces skin tanning. Melanocyte Stimulating Hormones (MSH) are a class of peptide hormones produced in the intermediate lobe of the pituitary gland that stimulate pigment cells (melanocytes) in the skin and hair to produce and release melanin which leads to darker skin and hair. Melanotan II increases melanin production via stimulation of skin pigment cells called melanocytes.

#### **What is Melanin?**

Melanin is the skin pigment produced that protects our skin from sun's UV radiation and damage. It could be considered our body's own natural sunscreen. Low levels of melanin mean that the skin is highly susceptible to DNA damage with excess sun exposure. This lack of melanin and its protection against UV radiation means that those individuals with fair skin have a propensity to burn and risk more DNA damage. It also means that a lot of time is invested their ability to develop a tan safely without burning.

Receiving an adequate supply of vitamin D from the sun without being at risk of developing melanoma is somewhat of a balancing act. Studies have already discovered that staying out of the sun to prevent melanoma can cause vitamin D deficiency.

#### **How to stimulate melanin production with tanning peptides**

To get a safe tan, we need to stimulate the melanocyte stimulating hormone responsible for increasing melanin production. Scientists discovered the use of a "tanning peptide" when investigating possible ways to treat skin cancer. They hypothesized that by inducing the body's natural pigmentary system through the process of melanogenesis, a protective tan could be produced before UV exposure, thereby reducing the potential for skin damage. With just a little UV exposure, the release of  $\alpha$ -Melanocyte Stimulating Hormone stimulates a natural increase in the production of melanin from the melanocytes in the skin. Use of the tanning peptide provides more  $\alpha$ -MSH which results in more melanin being produced and greater tanning potential (skin pigmentation) regardless of your skin type.

Clinical trials have shown that use of Melanotan II may hold the potential to promote melanogenesis, with minimal side effects. The primary role of melanogenesis is to protect the hypodermis, which is the layer under the skin from the UV-B light that causes damage. It works by absorbing all of the UV-B light, which blocks its passage into the skin layer.

### **Benefits of a Melanocyte Stimulating Hormone:**

- The ability to achieve a darker tan with less exposure to UV radiation
- Possible reduction in the risk of Melanoma (skin cancer)
- A possible reduction in the incidence of sun-damaged skin
- Fair skin individuals have the ability to develop a tan through the use of the MT2 peptide.
- It can lead to reduction in body fat
- No sunburn, No tan lines
- No sunless tanning streaks or fake tan removal
- It can increase libido
- (During clinic trials for its use as a tanning agent, melanotan II was found to be a potent stimulator of male erections. It has also been shown to increase female sexual desire in patients with sexual arousal disorder).

### **Side effects of melanotan II**

Short term side effects after administration include:

- Facial flushing
- Reduced appetite, nausea and vomiting
- In males, spontaneous erections 1-5 hours after administration (priapism), associated with yawning and stretching complex

Long term, there is concern that melanotan II may increase the risk of:

- Melanoma – a potentially serious form of skin cancer
- Deepening of the color of moles, new moles and atypical melanocytic naevi
- Melanonychia – brown to black discoloration of one or more nails

## Bremelanotide

**Bremelanotide also known as PT 141 and Vyleesi** has been shown to have a substantial effect on libido, generating sexual arousal in both men and women within minutes of administration.

### **Benefits of PT Bremelanotide:**

- Results. More women reported moderate or high sexual desire following bremelanotide (Vyleesi) treatment vs. placebo.
- Among women who attempted sexual intercourse within 24 hours after treatment, significantly more were satisfied with their level of sexual arousal following bremelanotide, compared with placebo.
- Effects may be felt up to 12 hours from the time of administration and have been known to last for up to 3 days, diminishing each day.
- Bremelanotide has been shown to have significant results on male test patients, with what is described as “intense” and “frequent” erections lasting between 2-6 hours.
- For women, sexual arousal has been experienced in a varied range of minutes to weeks
- Bremelanotide was developed from the peptide hormone Melanotan II
- Effective in treating sexual dysfunction in men - impotence / erectile dysfunction and premature ejaculation
- Effective in treating sexual dysfunction in women - sexual arousal disorder, generalized hypoactive sexual desire disorder (HSDD)
- Does not act upon the vascular system
- Increases sexual desire via the central nervous system

Bremelanotide (Vyleesi/PT 141) was developed from Melanotan II, targeting its aphrodisiac effects. This peptide has been shown to have a substantial effect on libido, generating sexual arousal in both men and women within minutes of administration. It has been shown to be effective in treating erectile dysfunction, even in men who have not responded to other ED treatments, such as Viagra and Cialis and female sexual arousal and orgasmic disorders as well as generalized hypoactive sexual desire disorder (HSDD). The FDA approved bremelanotide under the name Vyleesi in 2019.

This peptide is also able to cross the blood-brain-barrier, bypassing the vascular system and acting at the level of the central nervous system. This property gives bremelanotide an advantage over traditional ED drugs, which can decrease blood pressure to dangerous levels.