

# MUNAPSYS™

#CHOOSEYOUREXPRESSION



PRE- & POST-  
SYNAPTIC



EXPRESSION  
WRINKLES



SMILING



Pre- & post-synaptic



Expression wrinkles



Smiling



IN-SILICO & BIOMIMETIC  
DESIGN OF PEPTIDES

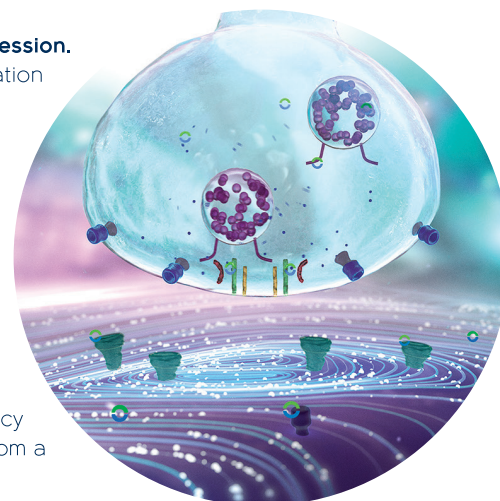
- INCI name of the active ingredient: Acetyl Hexapeptide-1
- Recommended dose: 2-5%
- Solubility: Water soluble

## DESCRIPTION & MECHANISM

Laugh, cry, enjoy and be free to live. Do not let **fine lines** #chooseyourepression. Munapsys™ is a **botulinum toxin-like peptide** obtained by *in silico* design in collaboration with experts in **neuroscience**

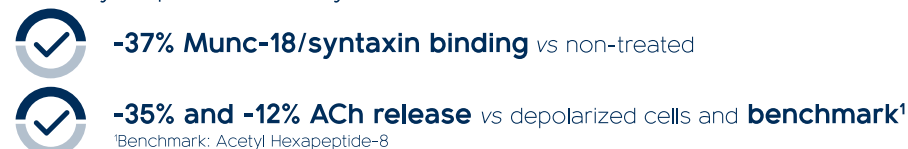
It is the first cosmetic ingredient able to act both in the **pre- and post-synaptic pathways** of muscle contraction and in a new SNARE protein (**Munc-18**). Munc-18 binds to syntaxin allowing the assembly of the SNARE complex. **Pre-synaptic:** Munapsys™ competes with Munc-18 for its position in syntaxin, obstructing SNARE complex assembly and the release of the acetylcholine (ACh) neurotransmitter into the synapse. **Post-synaptic:** ACh activates clustered AChR, inducing a depolarization and opening  $Ca^{2+}$  channels allowing actomyosin cross-bridge and sliding for muscle contraction. Munapsys™ modulates AChR clustering, depolarization,  $Ca^{2+}$  mobilization, and actomyosin cross-bridge and sliding

Munapsys™ mechanism is a **real upgrade** in the **expression lines field**, with proven efficacy compared with a benchmark combination even at a lower dose. Let yourself enjoy from a new generation of botulinum-like ingredients. **A safe, real beauty filter**

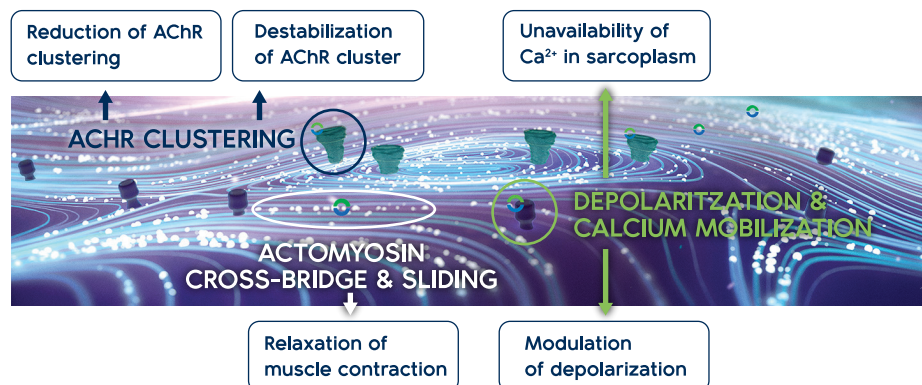


## IN VITRO EFFICACY

### Pre-synaptic efficacy



### Post-synaptic efficacy

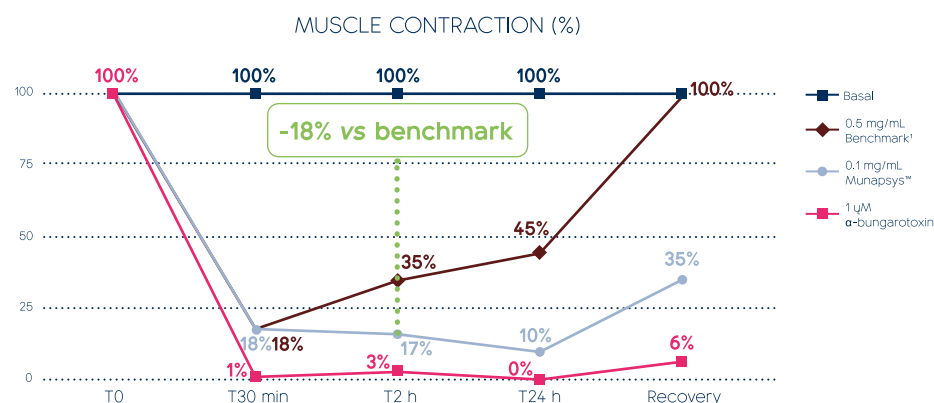


### Efficacy in chronological wrinkles



### Modulation of muscle contraction

Motor neurons derived from hiPS cells and human muscle cells



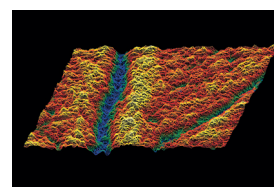
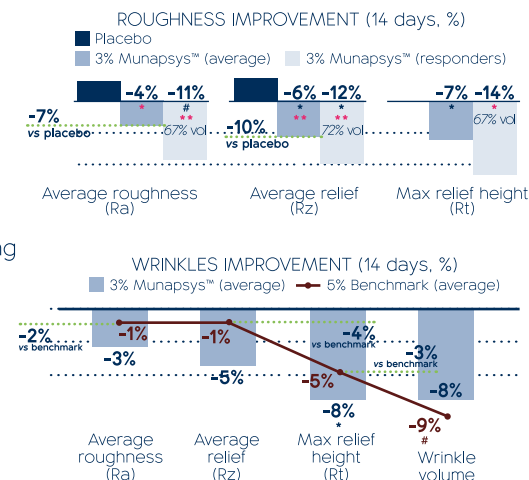
<sup>1</sup>Benchmark: Acetyl Hexapeptide-8

## IN VIVO EFFICACY

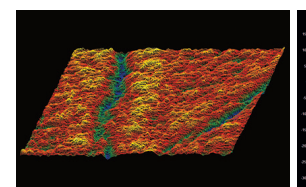
### #chooseyourepression

2 panels of 18 women (35-55 years old) applied a cream with **3% Munapsys™** on half face, twice daily for 14 days. A placebo or 5% benchmark<sup>2</sup> was applied on the other half of the face

<sup>2</sup>Benchmark: 3% Acetyl Hexapeptide-8 + 2% Dipeptide Diaminobutyryl Benzylamide Diacetate



T0 days



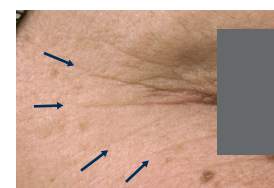
T7 days

**T7 days (3% Munapsys™)**

- 25.5% average roughness (Ra)
- 14.2% average relief (Rz)
- 16.6% max relief height (Rt)
- 25.5% maximum wrinkle depth



T0 days



T14 days

**T14 days (3% Munapsys™)**

- 10.4% average roughness (Ra)
- 10.3% average relief (Rz)
- 13.6% max relief height (Rt)
- 21.1% wrinkles volume

### Happy smile

10 women (with a sad smile, 35-55 years old) applied a cream with **3% Munapsys™** on the whole face, twice daily for 28 days.



T0 days



T28 days

**SMILING**

- +16.7% happier smile (lifting of commissures)