

ARGIRELINE[®]

An Anti-Wrinkle GMP Hexapeptide

*The Cosmetic Alternative to
Botulinum Toxin A*

ARGIRELINE

SUMMARY

The anti wrinkle hexapeptide **ARGIRELINE®** represents the discovery of a positive hit based on a scientific pathway from rational design to GMP production. The study of the basic biochemical mechanisms of anti-wrinkle activity has led to this revolutionary hexapeptide which has taken the cosmetic world by storm.

Finally, a wrinkle treatment which can compete with the efficiency of Botulinum Toxin A but leaves aside the risks, the injections and the high cost: **ARGIRELINE®**.

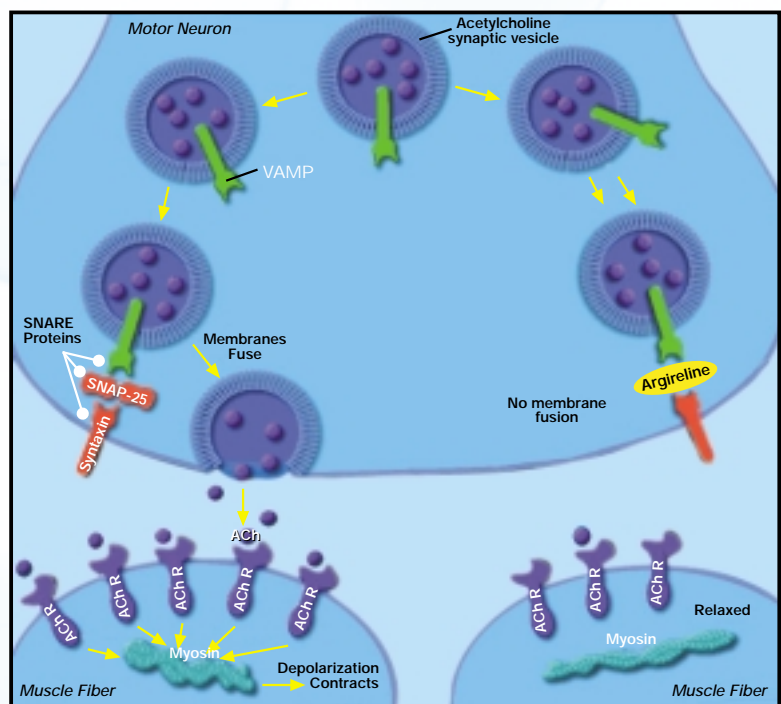
COSMETIC BENEFITS

- **ARGIRELINE®** reduces the depth of the wrinkles caused by the contraction of the muscles of facial expression, especially in the forehead and around the eyes.
- **ARGIRELINE®** is a safer, cheaper, and milder alternative to Botulinum Toxin, topically targetting the same wrinkle formation mechanism in a very different way.

HOW DOES ARGIRELINE® WORK?

Muscles are contracted when they receive neurotransmitter that travels within a vesicle. The SNARE (SNAP REceptor) complex is essential for this neurotransmitter release at the synapsis (*A. Ferrer Montiel et al, The Journal of Biological Chemistry, 1997, 272, 2634-2638*). It is a ternary complex formed by the proteins VAMP, Syntaxin and SNAP-25. This complex is like a cellular hook which captures vesicles and fuses them with the membrane for the release of neurotransmitter.

ARGIRELINE® is a mimic of the N-terminal end of SNAP-25 which competes with SNAP-25 for a position in the SNARE complex, thereby modulating its formation. If the SNARE complex is slightly destabilized, the vesicle can not dock and release neurotransmitters efficiently and therefore muscle contraction is attenuated, preventing the formation of lines and wrinkles.

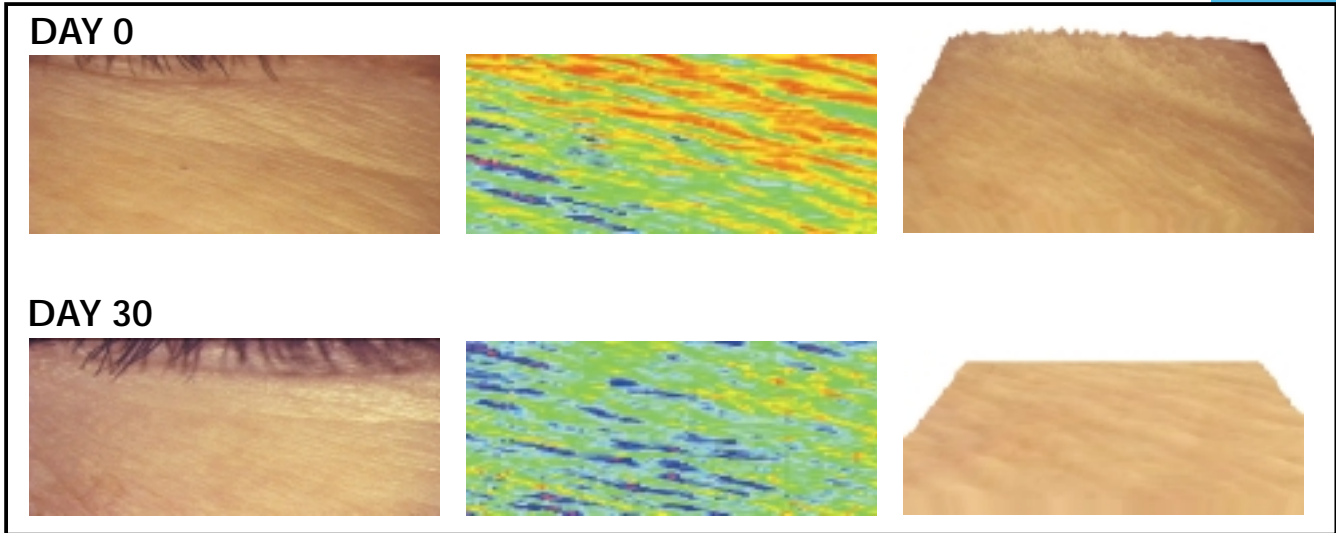


EFFICACY TESTS IN VIVO

Several tests were performed to prove the anti-wrinkle efficacy of an O/W emulsion containing 10% **ARGIRELINE® SOLUTION**.

IMAGE ANALYSIS

The test was performed on female volunteers who applied the product twice daily for 30 days. Photographs were taken and analysed using specialised software for wrinkle evaluation.



ARGIRELINE® produces an integral skin recovery, the whole treated area is freed from microwrinkles.

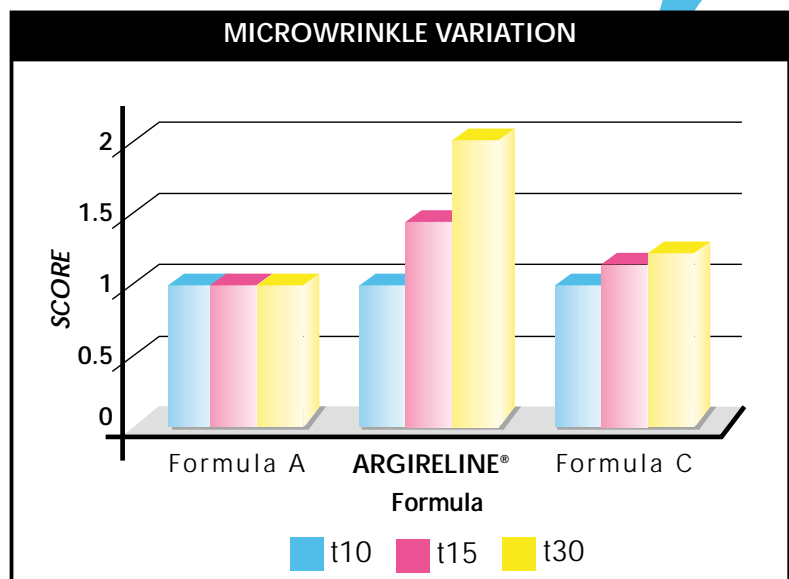
Software analysis colour codes wrinkle depth - red colour indicates depth while green indicates surface level.

Further software analysis creates a 3D profile of the area, where micro roughness becomes clearer.

The test was a double blind crossover, where several parameters were studied including skin smoothness, skin compactness, skin brightness and microwrinkles.

A dermatologist assigned the following scores for microwrinkle variation:

- 1.0 - absence of variation
- 1.7 - slight
- 2.3 - fairly good
- 3.0 - good



ARGIRELINE

WHY IS ARGIRELINE® A COSMETIC ALTERNATIVE TO BOTULINUM TOXIN A?

- BoNT/A is thought to be the most lethal substance on a weight basis: 1 g of toxin would kill one million people.
 - LD₅₀ estimations:
 - ✓ 1ng/kg parenterally
 - ✓ 3 ng/kg by inhalation
- Cosmetic use requires injections on the face, which are uncomfortable and can be painful.
- Cost is in the region of 300 US\$ per injection in North America and Europe (it must pay for clinics, doctors, equipment).

ARGIRELINE® is an inoffensive hexapeptide composed of natural aminoacids.

LD₅₀ determination
 ✓ >2000 mg/kg orally (rat)

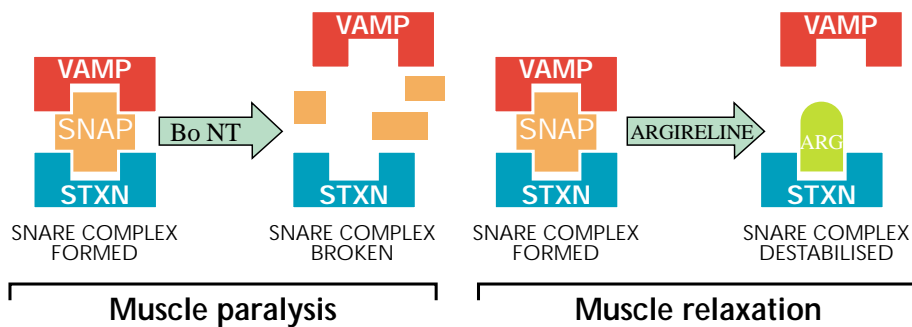
safer!

Cosmetic use is via topical application, applied in creams, lotions, serums, body milks, etc.

No injection!

Price for the final product -enough for 30 days of treatment- is on average 10 times cheaper than BoNT/A.

Cheaper!



milder!

ANALYTICAL DATA

ARGIRELINE® solution	
CODE	PD010
ACTIVE INGREDIENT	WATER, ACETYL HEXAPEPTIDE-3
APPEARANCE	TRANSPARENT SOLUTION
PRESERVATIVE	0.5% PHENONIP

ARGIRELINE® is a registered trademark of Lipotec SA



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