



DISCOVERING A. LIPOTRUEAE



D/scover: *Alteromonas lipotrueae*



Develop: neuromuscular communication



Del/ver: smoothes hidden expression wrinkles



MARINE
BIORESEARCH

DESCRIPTION & MECHANISM

Innovation can emerge from the mechanism of action, the origin, or even the technology used. But what about the **discovery** of a new microorganism?

V/WA™ is a fully vertically integrated product, completely controlling the three key steps of the process: **D/scover**, **Develop** and **Del/ver**. **V/WA™** is the active ingredient obtained from the fermentation of a **newly identified** *Alteromonas* species: ***Alteromonas lipotrueae***

Alteromonas lipotrueae was found in the sea living in symbiosis on the surface of the Mediterranean Sea's most stinging jellyfish, the ***Pelagia noctiluca***. The metabolomic analysis of the ferment from this microorganism confirmed that it contains several biomimetic compounds linked to muscle contraction

V/WA™ relaxes expression wrinkles acting along the three steps of neuromuscular communication: neuritogenesis & neuronal migration, synaptic vesicles recycling and muscle contraction. **V/WA™** smoothed wrinkles on crow's feet, the forehead and even those challenging **hidden wrinkles** that are revealed to the world when smiling or frowning

From the **discovery** of a new microorganism, through the **development** of a new active ingredient to the **delivery** of a novel approach for expression wrinkles

Raw material approved by ECOCERT GREENLIFE, conform to the COSMOS Standard

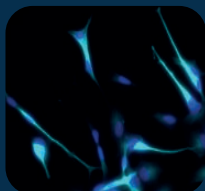


IN VITRO EFFICACY

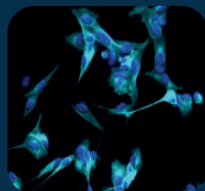
Neuritogenesis & neuronal migration

● -17% neurite outgrowth

Basal
(β -III tubulin in cyan)



0.05 mg/mL V/WA™
(β -III tubulin in cyan)



● -13% neuronal migration towards myocytes to form synaptic connections

Basal

Motor neurons



Myocytes & migrated motor neurons

0.05 mg/mL V/WA™

Motor neurons

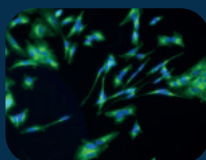


Myocytes & migrated motor neurons

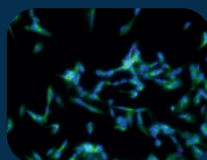
Synaptic vesicles (SVs) recycling

● -34% clathrin, slowing down SVs recycling and so an efficient neurotransmitter release

Basal
(clathrin in green)



0.1 mg/mL V/WA™
(clathrin in green)



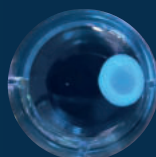
Muscle contraction

● -73% acetylcholine release

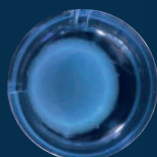
● -40.5% activated AChRs vs basal myocytes

● -48% contraction of myocytes in a collagen matrix

Basal



0.15 mg/mL V/WA™



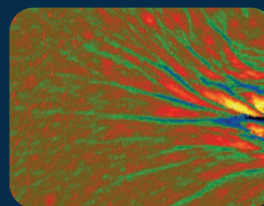
IN VIVO EFFICACY

Del/vering a smoothing effect against hidden expression wrinkles

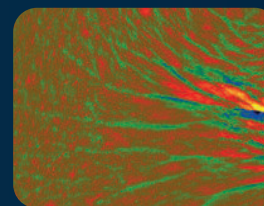
2 panels of 20 women (45-60 years old) with **expression lines** in **crow's feet** and **forehead** applied a cream with 3% V/WA™ or a placebo on the whole face, twice daily for 28 days

- -9% wrinkle depth & volume in crow's feet in 10 min
- Up to 35% less wrinkle depth in crow's feet in 28 days
- -13% wrinkle depth between wrinkles and smiling wrinkles in 10 min in crow's feet

T0 min

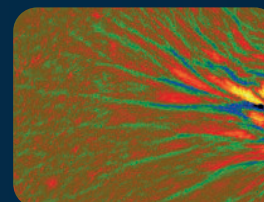
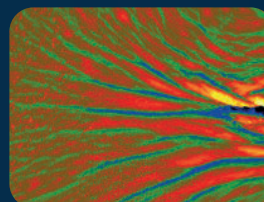


T10 min



Wrinkles

-11.3% depth
-18.1% volume



Hidden wrinkles (smiling)

-31.0% depth
-15.8% volume

T0 days



T28 days



Hidden wrinkles (smiling)

-23.4% depth
-11.3% volume

- Up to 44% less wrinkle depth in the forehead in 10 min
- Up to 51% less frowning wrinkle volume in the forehead after 28 days
- -34% wrinkle depth between wrinkles and frowning wrinkles in the forehead after 28 days