



**TONIKELP®**

Age-defying strategy

\*

*Saves your skin from premature aging*

*Backs up skin feeling and healthy appearance*



The skin is chronically exposed to both endogenous and environmental agents, leading to premature aging. The symptoms of premature aging are commonly considered to be fine wrinkles, dry skin and loss of firmness.

GELYMA proposes a new marine solution: TONIKELP® to save the skin from premature aging.

TONIKELP® combines *Macrocystis pyrifera* extract and hydrolyzed yeast extract. It offers a rich composition in essential nutrients, e.g. minerals with balancing and ground correcting properties, branched chain amino acids for restoring dermal collagen.

## Mechanisms of action

The mechanisms of action of TONIKELP® have been studied by using different methods.

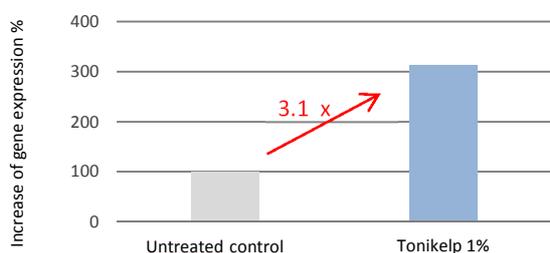
*Genomic analysis on NHDFs fibroblasts submitted to 1% active for 24h. Analysis by qRT-PCR on TaqMan cards (STRATI CELL-BELGIUM).*

*Elisa testing of normal human fibroblasts submitted to different doses of active (SEPhRA PHARMA-FRANCE).*

*Consumer test on 24 female volunteers (45-65 years old) – Application of an emulsion (3% active) twice daily during 28 days (DERMSCAN-POLAND).*

### TONIKELP® participates in the mitochondrial repair process against oxidative stress

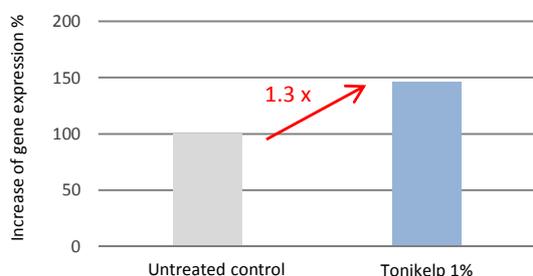
#### ► Superoxide dismutase 2, mitochondrial SOD 2 gene



By stimulating SOD2 gene expression, TONIKELP® would allow cutaneous cells to be more resistant against oxidative stress by stimulating detoxification activity and neutralisation of free radicals.

### TONIKELP® helps to maintain cellular homeostasis and to repair DNA

#### ► Growth arrest and DNA –damage inducible GADD 45A gene

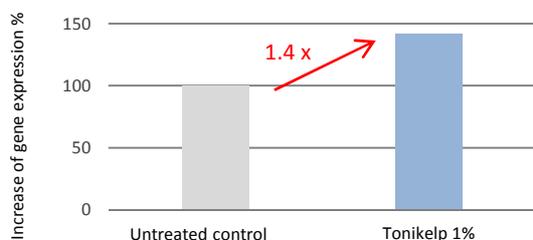


By amplifying GADD 45A gene expression, TONIKELP® would be able to maintain

- ◆ cellular homeostasis by controlling DNA repair against environmental and physiological stressors
- ◆ genomic integrity in UV exposed skin.

### TONIKELP® increases cell proliferation and viability

#### ► Keratinocyte growth factor FGF 7 gene

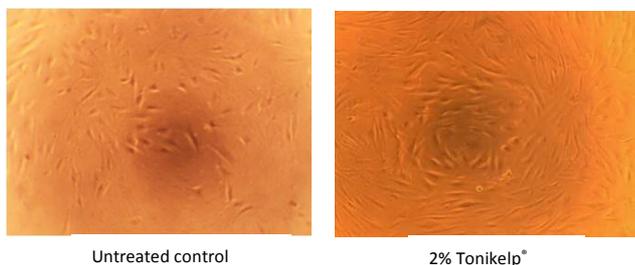


By stimulating FGF7 gene expression, TONIKELP® would be able to encourage epidermal renewal and to increase the vitality of epidermal growth

This efficacy is confirmed by Elisa testing and optical microscopic study on human normal fibroblasts.

TONIKELP® stimulates the cell proliferation and viability with a dose dependant effect.

With 1% + 210 % proliferation  
2% + 310 % proliferation

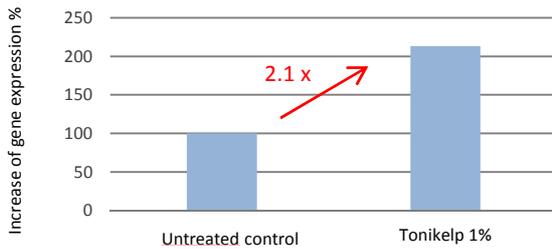


Untreated control

2% Tonikelp®

## TONIKELP® stimulates genes linked to dermal structure and functions

### ► Hyaluronan synthase HAS 2 gene

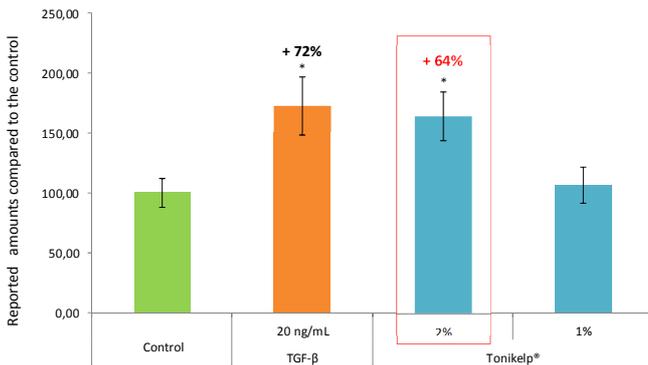


By increasing HAS2 gene expression, TONIKELP® increases *in situ* natural HA biosynthesis of dermal cells at the deepest layers of the skin.

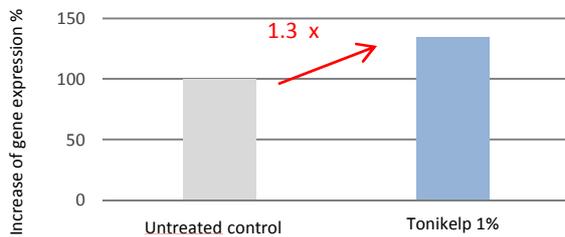
Therefore it allows a better skin hydration and enhances volume in the skin.

This efficacy on hyaluronic acid synthesis is confirmed by Elisa testing on human normal fibroblasts.

With 2%, TONIKELP® significantly increased by 64% the production of HA that helps to replenish the skin's moisture and provides long-lasting hydrating benefits.

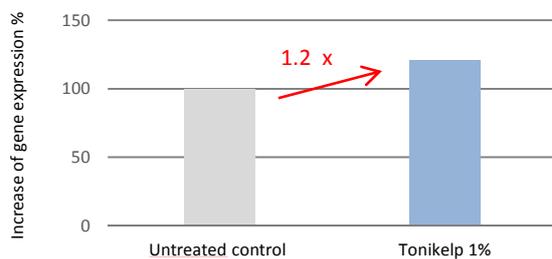


### ► Collagen 3 alpha COL 3 A1 gene



Via the overexpression of COL3 gene, TONIKELP® improves collagen 3 synthesis.

### ► Syndecan 4 SDC 4 gene

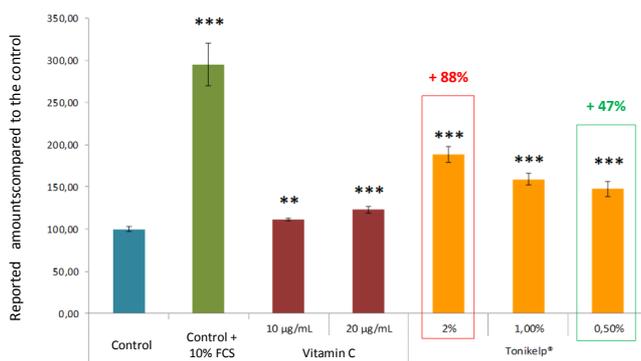


Syndecan-4 shows particular functions in the stabilisation of ECM adhesion. It regulates, with integrins, adhesion, cytoskeletal organization and migration.

By increasing SDC4 gene, TONIKELP® improves the functions cells-extracellular matrix adhesion.

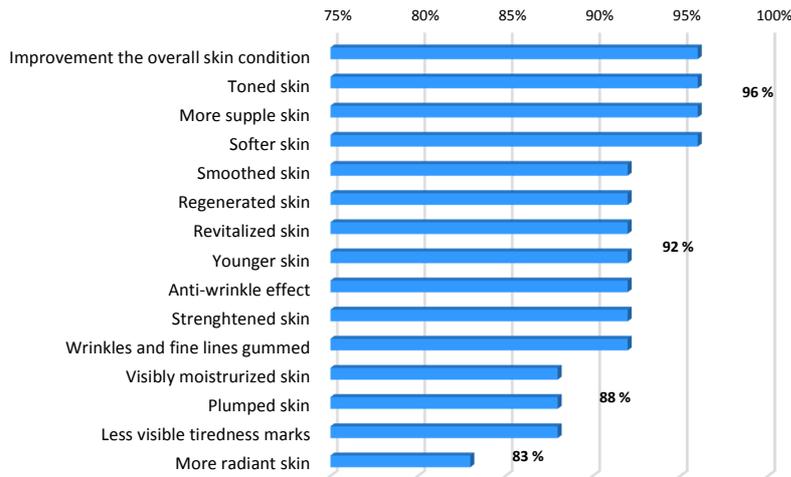
This efficacy on syndecan 4 synthesis is confirmed by Elisa testing on human normal fibroblasts.

With 2%, TONIKELP® very highly significantly increased by + 88% the production of SDC 4.



## TONIKELP® backs up skin feeling and healthy appearance

### Consumer test



Remarkable satisfaction level of volunteers for improving the overall skin condition:

- 17% after one week
- 54% after two weeks.

Future use of the product  
88% volunteers would like to buy it.

### Cosmetic benefits

By over-expressing major genes implied in premature skin aging , TONIKELP is able to

- ◆ struggle against DNA and mitochondria damage that allows to fight oxidative stress maintain genomic integrity
- ◆ stimulate fibroblasts proliferation that increase the vitality of epidermal growth
- ◆ improve collagen synthesis and maintain skin elasticity
- ◆ hydrate better skin and smooth skin surface
- ◆ reinforce the stabilization of the cell-extracellular matrix adhesion and thus the dermal cohesion.

As results, TONIKELP® extends the characteristics of youthful skin.

TONIKELP® improves the overall health and appearance of skin.

### Cosmetic applications

Anti-age face care - firming body care.

Recommended use level: 1% - 3%.

### Characteristics

INCI names water CAS N° 7732-18-5 EINECS/ELINCS n° 231-791-2  
Macrocystis pyrifera extract CAS N° 347174-92-9  
Hydrolyzed yeast extract

Limpid liquid amber colored.

Additives by selection: phenoxyethanol or emollient PTG (pentylene glycol).

No additive :ECOCERT-COSMOS compliant

Packing size: 1kg – 5 kg – 10kg.



Algal source

*Macrocystis pyrifera*: the largest kelp that constitutes important marine forests. Thalli used are from Argentina and bio quality.



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GELYMA

Parc d'Affaires Marseille Sud (C4) - 1 Boulevard de l'Océan - 13009 Marseille - France  
Phone: +33 4 96 14 09 82 - Fax: +33 4 96 14 09 83 - E-mail: gelyma@wanadoo.fr