



CENTELLA

Cellular Regeneration
Discovery



Wound Healing
Anti-Aging
Spot Remover

ACTV
BIOTECH

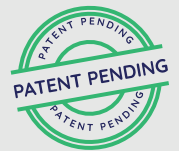
Cellular Regeneration Discovery

Effects

- Promotes cellular regeneration by stimulating the proliferation of fibroblast cells.
- Reduces wrinkles by stimulating collagen and elastin synthesis.
- Increases skin moisture level, elasticity and microcirculation and prevents sagging.
- Prevents the formation of spots on the skin by balancing melanin synthesis.
- Shows wound healing activity thanks to the specific centelloid compounds it contains.

Origin

Developed from *Centella asiatica* (Gotu Kola) stem cells using ProlCell® Technology.



What is ProlCell® Technology?

ProlCell® Technology enables to benefit the effects of plant stem cells and small RNAs in their vesicles.

Effect Mechanism

ProlCell® Centella contains enriched stem cell components and stem cell specific exogenous small RNAs thanks to the elicitor application.

What is the effect of small RNA?

Small RNAs, including miRNA are non-coding RNA fragments, which regulate the post-transcriptional silencing of target genes. Plant small RNAs may exert similar functions in both human and plant. This provides exogenous plant small RNAs to play a key role on the physiological function of the human body, including the skin.



Activity Tests

In vitro Tests

Cell Line: Human normal fibroblast, human normal keratinocyte, mouse melanoma cells

Test Components: 100, 150 and 200 µg/ml ProlCell Centella extract

Parameters: Analysis of COL1A1, HAS3, Elastin and TGFβ1 genes by RT-qPCR, Evaluation of melanin content with in vitro melanin content determination test, Evaluation of wound healing efficiency with the Scratch Assay method

For gene expression analyses, human normal fibroblast cells were incubated with ProlCell Centella concentrations for 24 hours.

Mechanism of Effect

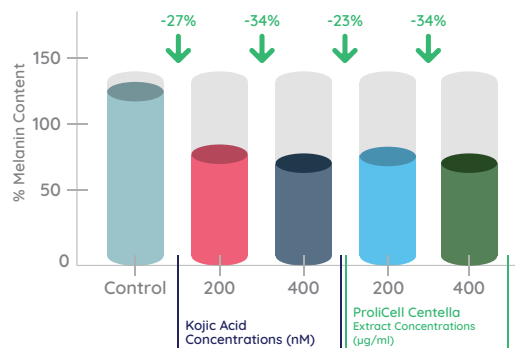
ProlCell Centella



TGFβ1
HAS3
COL1A1
ELASTIN

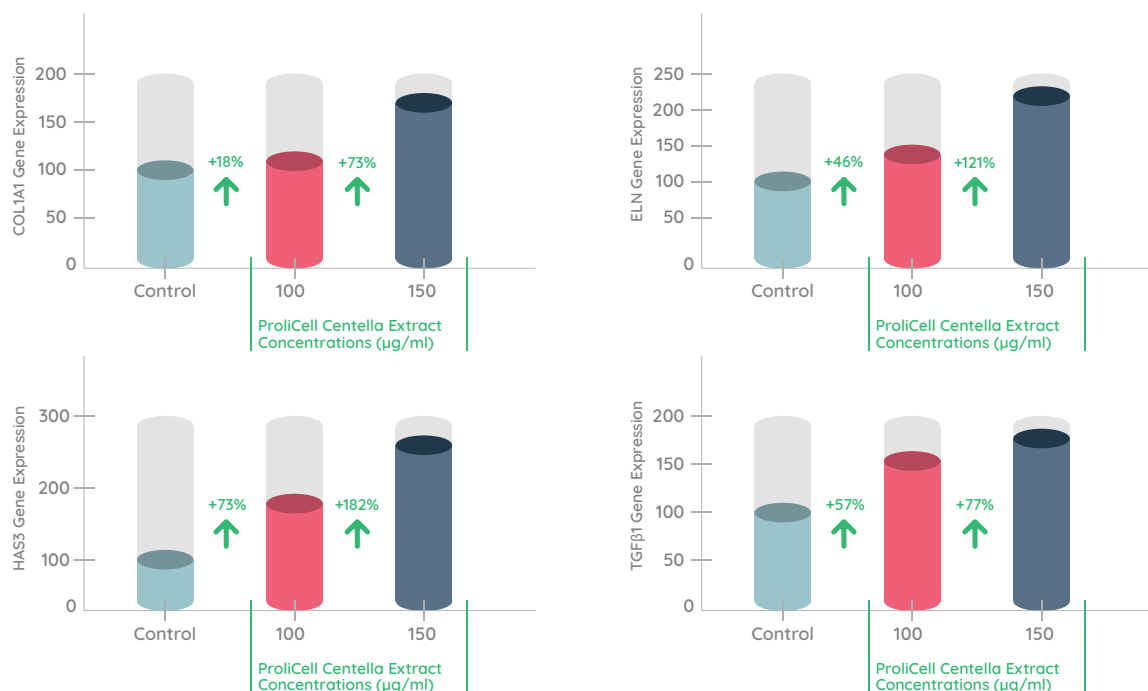


Determination of Melanin Suppression Efficacy



ProlCell Centella suppresses excessive melanin synthesis and reduces skin blemishes.

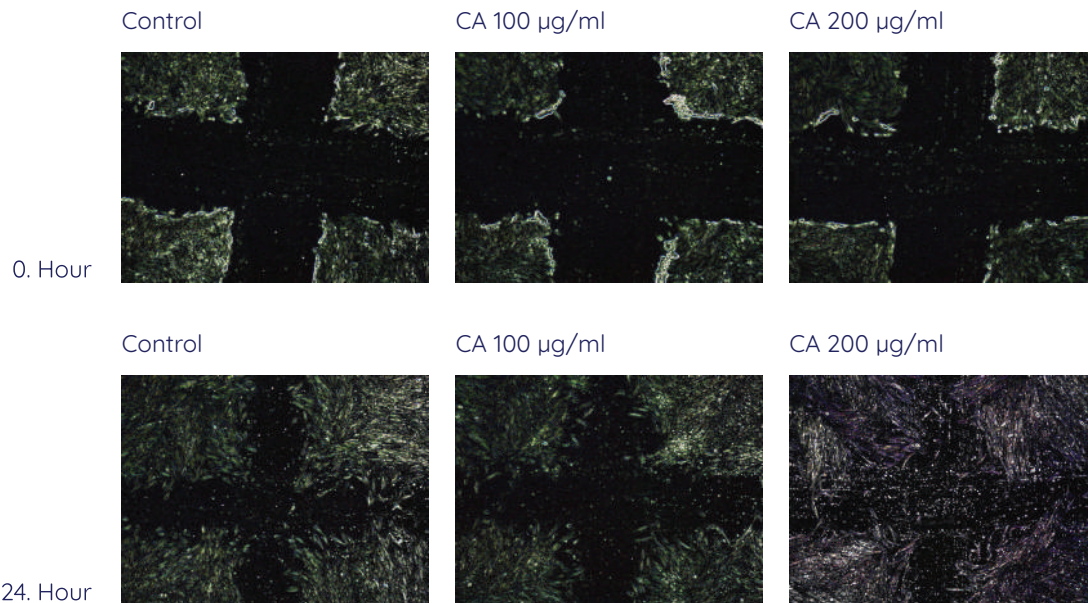
Gene Expression Analysis



ProlCell Centella shortens the wound healing process by increasing the hydration of the skin and helps regenerate the skin by increasing the expression of wound healing and anti-aging genes.

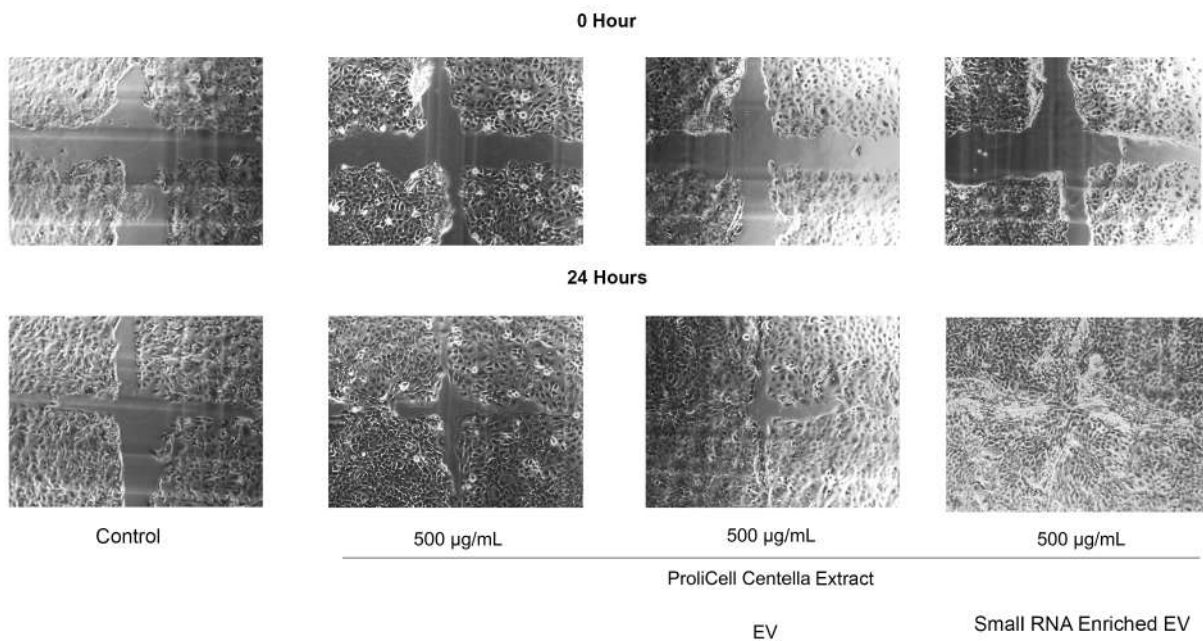
Activity Tests

Determination of Wound Healing with the Scratch Assay Method



ProlCell Centella promotes cell proliferation on human normal fibroblasts, allowing faster wound healing.

*CA: ProlCell Centella



EV: Extracellular Vesicle

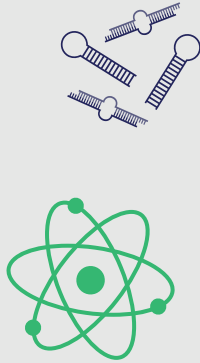
ProlCell Centella promotes cell migration on human keratinocyte cells, allowing faster healing of the wound. It was concluded that when ProlCell Centella and EVs were used together, cell migration increased depending on the small RNA concentration.



Cellular Regeneration Discovery

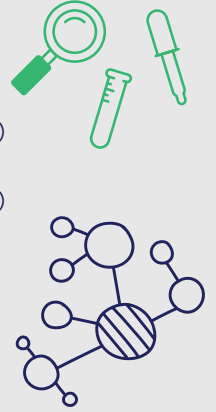
Effect Mechanism

- Anti-aging
- Anti-blemish
- Wound healer



Cosmetic Uses

- Anti-blemish
(Face and Skin Care Products)
- Anti-aging Products
(Face and Skin Care Products)



ProlCell Centella DW (Disperses in water)
INCI Name: Glycerin, Centella Asiatica Flower /
Leaf / Stem Extract, Extract, Xanthan Gum
ProlCell Centella WS (Water soluble)
INCI Name: Glycerin, Centella Asiatica Flower /
Leaf / Stem Extract, Sodium benzoate, Potassium
sorbate
Usage rate: 2-5%
pH: 4.0-7.0



Features

Origin: Herbal
Appearance: Viscous cell lysate suspension
Color: Yellow-Brown
Fragrance: Characteristic
Usage: Add below 40°C in cold-hot
processes.

