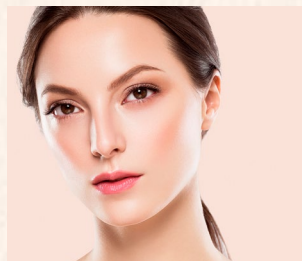


# ALULA PEREGRINA™ BIOPEPTIDE

PATENT N°WO2021234166



**A multifunctional brightening and skin longevity natural active.**



**The AlUla Peregrina™ BioPeptide visibly and safely brightens and unifies the skin tone while acting on five hallmarks of aging.**

## COSMETIC BENEFITS

The AlUla Peregrina™ BioPeptide :

- Provides pro-longevity activity and epigenetic protection through actions on five hallmarks of aging
- fights photoaging with a visible reduction in dark spots and a global brightening action
- regulates hydration

## MECHANISMS OF ACTION

The AlUla Peregrina™ BioPeptide protects skin cell DNA integrity by protecting telomeres while preserving the integrity of stem cells.

The AlUla Peregrina™ BioPeptide regulates the process of skin pigmentation with activity on three known mechanisms of action:

- It regulates skin pigmentation through DKK1 stimulation and DKK3 inhibition; these are glycoproteins involved in controlling the differentiation & activation of melanocytes in the basal layer at the bottom of the epidermis.
- It regulates melanin production through stimulation of Zinc  $\alpha$ -2-glycoprotein (ZAG), a protein involved in the regulation of melanogenesis decrease.
- It decreases melanin synthesis by inhibiting Endothelin-1, a potent vasoconstrictor peptide involved in the regulation of melanogenesis.

The AlUla Peregrina™ BioPeptide provides tensing, anti-wrinkle, and second-skin effects through strong film-forming and tensor action.

The AlUla Peregrina™ BioPeptide promotes a youthful complexion, lifts the skin, and regulates hydration by stimulating bleomycin hydrolase, the leading natural factor in NMF ( Natural Moisturizing Factor) hydration.

The AlUla Peregrina™ BioPeptide provides a plumping effect through inhibition of Endothelin-1, providing vasodilatation in the skin.

### ORIGIN AND DESCRIPTION

**Family** Moringaceae

**Renewable botanical origin** Cake from seeds cold press

**Geographic origin** AlUla, Saudi Arabia

**Extraction** Hydrolysis

### REGULATORY DATA

**English name** AlUla Peregrina™ BioPeptide

**Inci** Aqua & sodium citrate & Moringa peregrina seed extract & propionic acid

**CAS** 7732-18-5 & 6132-04-3 & ND & 79-09-4

**EINECS** 231-791-2 & 200-675-3 & ND & 201-176-3

**COSMOS** Approved

**Natural ingredient Index** 0,995 (ISO 16128)

**China status** Registered New Cosmetic Ingredient

### PHYSICOCHEMICAL CHARACTERISTICS

**Form** Liquid

**Color** Orange to brown

**Odor** Characteristic

### FORMULATION DATA

**Preservatives** Propionic acid (1.00%)

**Use level in formula** 0.50% - 2.00%

**Solubility** Water soluble

**Shelf life** 36 months

**Storage** Unopened vial protected from light and temperature between 16 and 25°C

### BIOLOGICAL ACTIVITY

#### IN VITRO

#### Pro-longevity activity and epigenetic protection through actions on 5 hallmarks of ageing

- Limitation of telomere attrition by 16.60% at a concentration of 0.50%
- Protection of stem cells by increasing their survival rate of stem cells under UVB increased by 32.50% at a concentration of 0.05%
- cells senescence reduction by stimulation of the - Zinc- $\alpha$ -glycoprotein expression by 337.80% at a concentration of 2.00%
- protection against epigenetic alteration by inhibition of HDACs, sirtuin activity at a concentration of 2.00%
- Natural Moisturizing Factor production stimulation and cell DNA protection by increasing the expression of bleomycin hydrolase by 147.20% at a concentration of 0.50%

#### Action on 4 biological pathways to prevent and reverse skin pigmentation

- DKK1 increased by 131.50% at a concentration of 0.50%
- DKK3 inhibition by 20.70% at a concentration of 0.50%
- Zinc- $\alpha$ -glycoprotein increased by 337.80% at a concentration of 2.00%
- Endothelin-1 inhibition by 34.90% at a concentration of 2.00%
- Melanin inhibition by 71.40% at a concentration of 0.10%

#### Physiological hydration

Bleomycin hydrolase increased by 147.20% at a concentration of 0.50%

#### Tensor activity

Collagen discs contracted by 51.10% at a concentration of 0.50%

#### Plumping effect

Endothelin-1 inhibition by 34.90% at a concentration of 2.00%

### CLINICAL STUDIES

Decrease of the melanin index by -8.5% in pigmented treated areas and 6.8% on non-pigmented treated areas

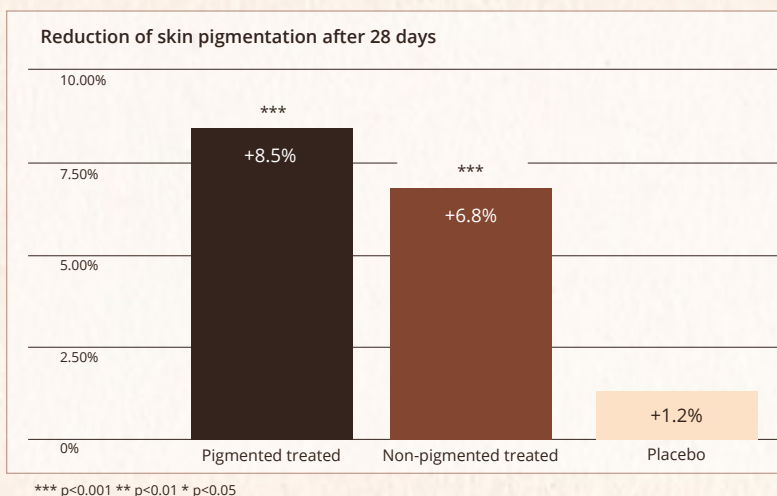
#### AlUla Peregrina Trading

Azizia District, Al-Madina Al-Munawwarah Street, 7239 - 43512 AlUla, Kingdom of Saudi Arabia / [www.alulaperegrina.com](http://www.alulaperegrina.com) - [info@alulaperegrina.com](mailto:info@alulaperegrina.com)

## EFFICACY

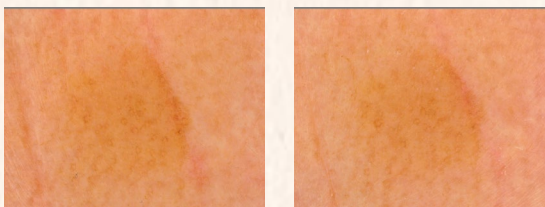
### Evaluation of the depigmenting potential under one month (in Vivo)

Carried out on 23 women (64-year-old average, ranging from 44 to 70) presenting lentigos on the face, neck, décolleté, and hands. The volunteers applied a formula containing 2.00% Peregrina BioPeptide for 28 days. After 28 days, the data analysis of mexametric measurements showed a statistically significant decrease in the melanin index on pigmented and non-pigmented areas. The AIUla Peregrina™ BioPeptide visibly reduces age spots.



#### Volunteer 3

Pigmented treated -3.60%  
Non-pigmented treated -7.30%  
Non-pigmented non-treated +4.20%

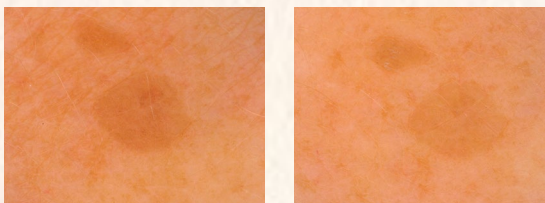


Day 0 → Day 28

After 28 days, pigmentation of age spots decreased; fine lines are reduced.

#### Volunteer 1

Pigmented treated -20.10%  
Non-pigmented treated -8.80%  
Non-pigmented non-treated -5.9%

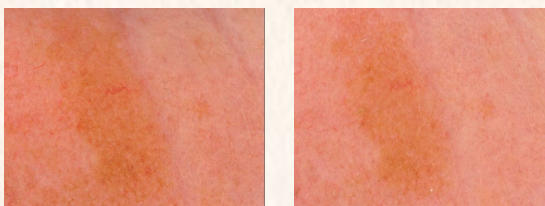


Day 0 → Day 28

After 28 days, pigmentation of age spots decreased.

#### Volunteer 10

Pigmented treated -12.10%  
Non-pigmented treated -11.60%  
Non-pigmented non-treated -11.5%

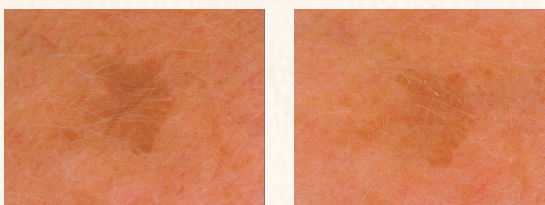


Day 0 → Day 28

After 28 days, pigmentation of age spots decreased; fine lines are reduced.

#### Volunteer 20

Pigmented treated -18.80%  
Non-pigmented treated -8.70%  
Non-pigmented non-treated +0.30%



Day 0 → Day 28

After 28 days, pigmentation of age spots decreased.