Passioline®

Takes care of weakened and damaged skins: repairs, remodels and soothes

Patented, eco-designed active ingredient obtained by **molecular distillation process**
Concentrate of precious molecules from Virgin Maracuja oil *(Passiflora edulis)*
Responsible sourcing from Peru

O Repairs skin tissue at three levels
Stimulates the key markers of cell proliferation, cell migration and the DEJ

O Regenerates, restructures and remodels the skin
Stimulates the synthesis of elastin and collagen; boosts the contractile force of fibroblasts

O Soothes skin weakened by the healing process

in-cosmetics® global
Innovation Zone
Best Ingredient Award 2017
GOLD

Laboratoires Expanscience's contribution to sustainable development has been recognized as exemplary by the AFAQ 26000 assessment

Laboratoires Expanscience is a member of the UEBT for protecting biodiversity and complying with fair trade regulations

EXPANSCIENCE® LABORATOIRES

Protecting your health through innovation

Identity

Botanical information

Botanical name: *Passiflora edulis* f. flavicarpa
Common names: Maracuya, Maracuja, passion fruit, yellow granadilla.
Family: Passifloraceae
Characteristics: a climber grown like a vine, which bears fruits 50 to 80 mm in diameter and about 150g in weight that are harvested when they turn yellow.
Environment: subtropical, arid climate with very little rainfall, irrigation by rivers flowing down from the Andes.
Traditional uses: food (fruit juice and other drinks, ice creams, yoghurts, jams, cakes), medicinal (relaxation) and cosmetic (oil used in soaps, nail varnish, hair dyes, etc.).

Latin American Plant Supply Chain (Peru)

Maracuja, is a climber native to South America. It is very well known for the use of its fruit that has a high **antioxidant** content, and from which a distinctive juice is produced.

Laboratoires Expanscience contribute to local economic development and are engaged in a process of **adding value to by-products.** By using seeds from the food industry that have been discarded until now, Expanscience offers producers access to a new market. Our recent acquisition of the Deshidratados Tropicales processing plant in Peru guarantees environmentally-friendly sourcing for the Maracuja supply chain.

PASSIOLINE® is an **unsaponifiables concentrate** (notably **tocotrienols**) produced by a **patented molecular distillation process** from Maracuja Oil. At the same time the oil is produced, the seeds are doubly valuated by the production of an anti-pollution active ingredient (ORMESIA®).

Concept

PASSIOLINE® takes care of damaged and weakened skin

Unsightly skin lesions are a regular part of our daily lives. These include chapping, irritations, acne, burns, cuts and post-surgery.

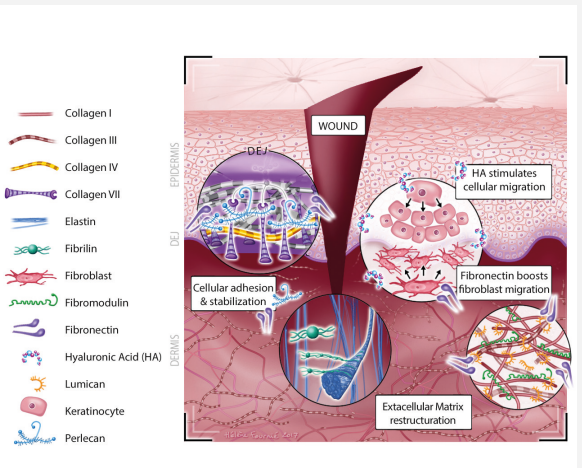
Damaged skin activates a healing process to return to its original condition. This process has two key phases: the **repair** and the **regeneration** of tissues.

PASSIOLINE® stimulates the key markers involved in skin repair and remodelling to promote and improve the healing process.

Healing is a complex process that involves multiple steps, two of which are key for skin tissues:

• **REPAIR,** enabling tissues to be quickly restored at three levels. In addition to the cell proliferation that is vital for tissue recovery, the following markers are involved:
- **Hyaluronic acid**: an essential component of the different stages of healing, promoting cell migration and reepithelialisation in particular.
- **Perlecan**: proteoglycan and essential DEJ constituent protein, along with fibronectin, playing an important role in stabilisation and adhesion of cells to the matrix.

• **REMODELLING OR REGENERATION** to restore tissues integrity and mechanical properties. The following markers are involved:
- **Elastin**: needed to rebuild and provide elasticity to the matrix while regenerating.
- **Fibromodulin, lumican**: protoglycans involved in the assembly and structural organisation of collagen fibres, as well as in regulating the contractile forces of fibroblasts.



PASSIOLINE® REPAIRS, REGENERATES AND

Biological efficacy

1 - Repairing effect at three levels: dermis, DEJ, epidermis

PASSIOLINE® stimulates the key markers involved in the skin repair mechanisms, the first step in healing.

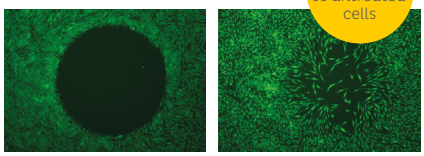
PASSIOLINE® stimulates the proliferation and migration of fibroblasts

PROLIFERATION
0.01% PASSIOLINE®, 72h

+74%* vs untreated cells

MIGRATION
Artificial wound

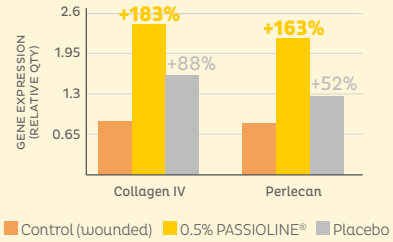
+27%** vs untreated cells



T0 — T72h – 0.01% PASSIOLINE®

Fibroblasts (green)

PASSIOLINE® stimulates the repair of the DEJ after an artificial wound, reconstructed skin, 4h.



PASSIOLINE® stimulates the proliferation and migration of keratinocytes

PROLIFERATION
0.01% PASSIOLINE®, 72h

+32%*** vs untreated cells

HYALURONIC ACID
0.01% PASSIOLINE®, 48h

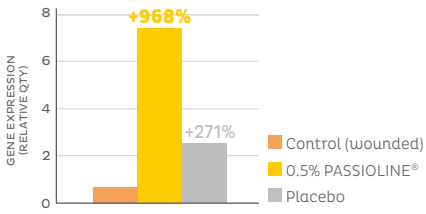
+79%*** vs untreated cells

Hyaluronic acid stimulates the migration of keratinocytes

2 - Regenerating, remodelling, restructuring effect

PASSIOLINE® stimulates the key markers involved in the reorganization of the ECM, enabling tissues to be properly remodelled and mechanical skin properties to be restored following a lesion.

PASSIOLINE® stimulates elastin synthesis following an artificial wound, reconstructed skin, 4h.



PASSIOLINE® stimulates the synthesis of key markers in the dermis and in tissues remodelling

+87%* collagen I**

+44%* lumican

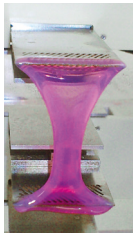
+108%* fibromodulin

vs untreated cells

Fibroblasts, 24h, gene expression, 0.01% or 0.05% PASSIOLINE®

PASSIOLINE® stimulates the contractile force of fibroblasts

Fibroblasts (65-year-old donor)



GlaSBox® test

+21.6%
average T0 - T+6h

+21.4%
average T0 - T+24h

0.01% PASSIOLINE®
vs untreated cells

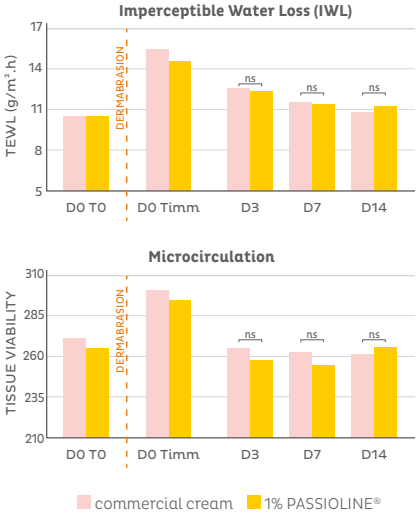
All of these markers play a key role in counteracting the effects of skin ageing.

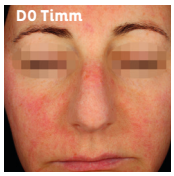
Clinical study

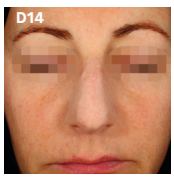
Repairing, regenerating & soothing effect

Double-blind, randomised study including a **dermabrasion** procedure. Comparative study with a **commercial repairing cream** selected among the market leaders.

- 48 women (age ≥ 18), divided into two groups **after a superficial dermabrasion**
- Each group applied a cream twice daily for 14 days: either **1% PASSIOLINE®** or the commercial cream
- **Repairing and soothing effects measured** (TEWL and microcirculation)







- PASSIOLINE® is **as effective as** the commercial cream in terms of TEWL and microcirculation throughout the study: D3, D7 and D14.
- PASSIOLINE® has a **repairing effect:** from D3 there is a significant reduction in the TEWL compared to the post-dermabrasion condition.
- PASSIOLINE® has a **soothing effect:** from D3 there is a significant reduction in microcirculation compared to the post-dermabrasion condition.
- PASSIOLINE® enabled the TEWL to **return to its original level** by D14 and microcirculation from D3.

Perceived effectiveness of PASSIOLINE® : self-evaluation after 14 days

- Soothes the visible effects of dermabrasion
- Soothes the visible redness from dermabrasion
- Soothes discomfort from dermabrasion

92%* satisfaction rate

* p<0.05 ** p<0.01 *** p<0.001

SOOTHES DAMAGED AND WEAKENED SKIN.

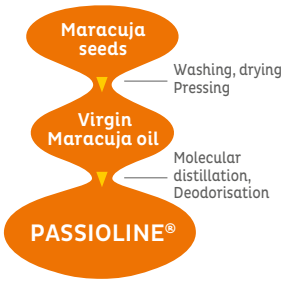
Notes for formulators

General information

- Description: Yellow liquid that may be cloudy or present a deposit.
- INCI name (PCPC): *Passiflora Edulis Seed Oil*
  IECIC listed – 2015 edition (China)
- Preservative system: none
- Origin: Plant – Maracuja extract
- Recommended percentage: 0.5-2%
- Solubility: in oily phase
- Recommended formulation temperature: up to 50°C
- Storage conditions: away from light, under nitrogen atmosphere in a hermetically sealed container, between 15°C and 25°C
- Patent(s): WO2015044254, 02/04/2015
- Approval: raw material approved by Ecocert Greenlife, conform to the COSMOS Standard

COSMOS APPROVED

Process



Applications

- **Repairing skin care, helps wound healing**
- **Skin care for weakened, damaged and very dry skin**
- **Regenerative and restructuring skin care (anti-ageing or post-surgery)**
- **Soothing skin care, after-sun care**

PASSIOLINE® in Oils Re-Pair

Oily Biphasic Serum

A	EMOGREEN L15	C15-19 Alkane	53,80%
	PASSIOLINE® LABORATOIRES EXPANSCIENCE	**Passiflora Edulis Seed Oil**	**1.00%**
	VIRGIN MARACUJA OIL LABORATOIRES EXPANSCIENCE	**Passiflora Edulis Seed Oil**	**5.00%**
	PREMIUM AVOCADO OIL LABORATOIRES EXPANSCIENCE	**Persea Gratissima Oil**	**10.00%**
	GOLDEN JOJOBA OIL (BCE1032)	Simmondsia Chinensis Seed Oil, Helianthus Annuus Seed Oil	8.00%
	ROSAMOX	Rosmarinus Officinalis Leaf Extract	0.10%
	HE PAMPLEMOUSSE SANS FUROCOUMARINES	Parfum	2.00%
B	ISOPENTYLDIOL	Isopentyldiol	20.00%
	UNICERT RED K7057-J en solution aqueuse à 0.1%	Aqua Ci 17200	0.10%

Formulation instructions on demand

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