AESTHET RECOVERY SERUM *SANITATEM*

with cell growth factors

Biological Tissue Repair

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Aɔsthet Recovery Serum *Sanitatem*

- Aɔsthet Recovery Serum *Sanitatem* which last translates from Latin as “Healing” is a healing, repairing and rejuvenating treatment for dry and damaged skin.

- It is designed for post surgery treatments and also after aesthetic medical treatments such as micro-needling, micro-dermabrasion, face lift, laser hair removal, IPL, chemical peels and other invasive cosmetic medical procedures in order to enhance speed and effective skin’s healing and repair.

Aəsthet Recovery Serum *Sanitatem*

- It contains a synthetic cell growth factor:

  - *Insulin-like Growth Factor-1 (plant-IGF1)*

  - *And a new generation of an engineering hepta –peptide Pep-Regulin, which activates signaling of another cell growth factor TGFβ in the skin*

- together with other powerful healing and regenerative active ingredients

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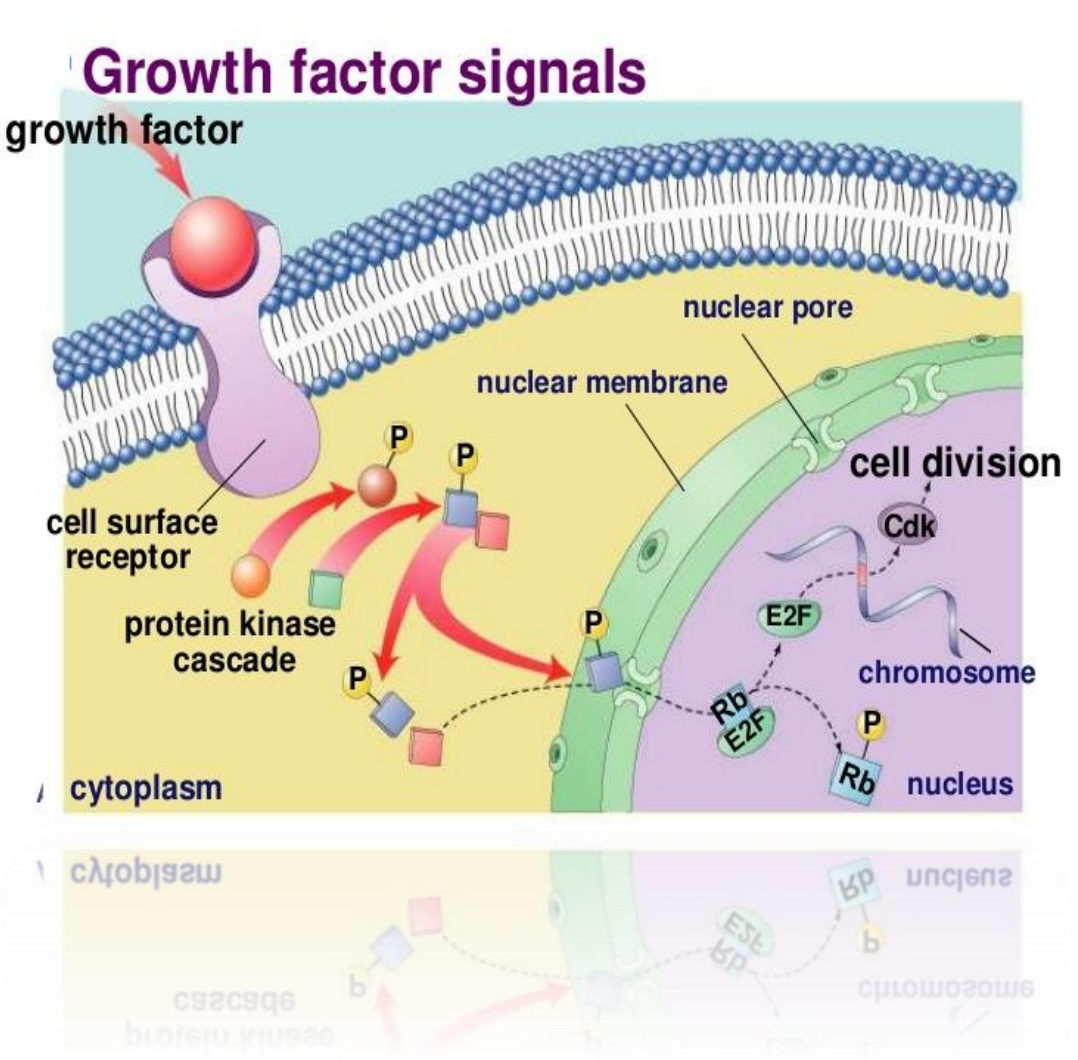
Cell Growth Factors

- Cell growth factor is a naturally occurring proteins capable of stimulating cellular growth, proliferation, healing, and cellular differentiation. Usually it is a protein or a steroid hormone. Growth factors are important for regulating a variety of cellular processes.
- Growth factors typically act as signalling molecules between cells. Examples are cytokins and hormones that bind to specific receptors on the surface of their target cells.



Wild plants as bio-factories

- Aəsthet Recovery Serum *Sanitatem* contains a plant-based synthetic human Insulin-like Growth Factor-1 (Plant-IGF1) obtained from N. Benthamiana / a relative to wild tobacco/ by transient expression;
- N. Benthamiana (Australia) historical plant model system for the transient expression of human proteins;
- ZMapp, developed during the 2014 Ebola crisis in record time;
- In vitro transcribed mRNA is introduced into the leaves and translated into human proteins by the natural plant expression system.
- High yeld expression.

- **Controlled condition** (water, minerals, temperature, light)
- **No pesticides**, closed environment

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Advantages of wild plants as bio-factories

- ✓Safe plant-based biotechnological ingredients
- ✓High purity molecules >95%

System	Production Timescale	Scale-up capacity	Product quality	PTMs
Bacteria	**Short**	**High**	Low	None
Yeast	Medium	**High**	Medium	Inacurate
Mammalian	Long	Very low	**Very high**	**Correct**
Plant cell cultures	Long	Medium	**High**	**Minor differences**
Transgenic plants	Long	**Very high**	**High**	**Minor differences**
 **Wild plants**	**Short**	**Very high**	**Very high**	**Minor differences**

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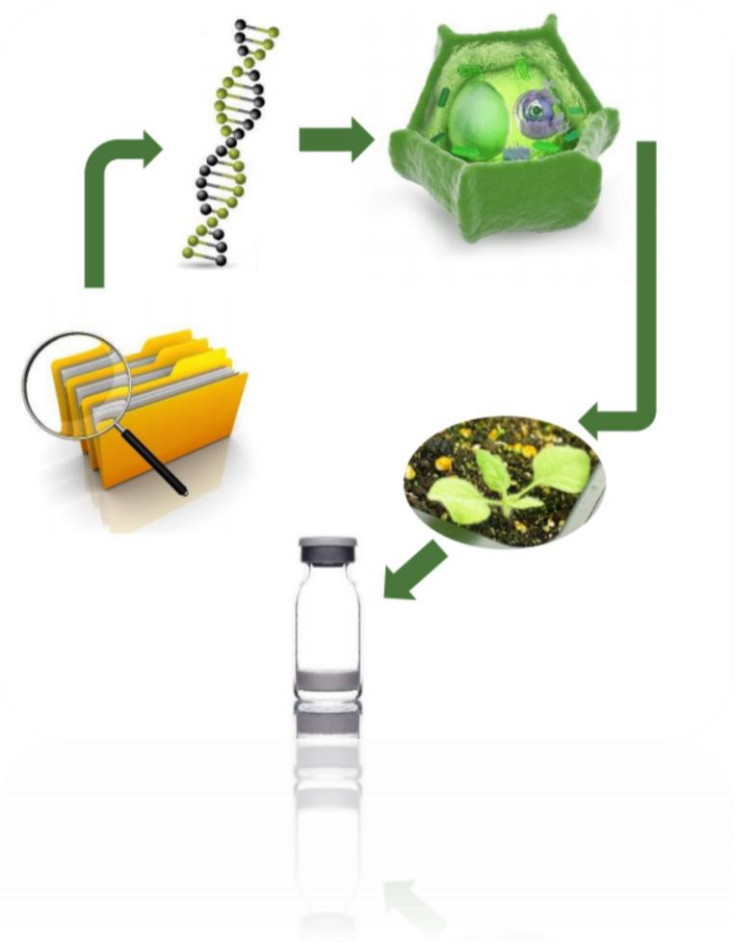
Bio-technological process

Synthetic human gene cloned into expression vector, transcribed into mRNA and insert through the leaves into cytoplasm of vegetable cells, while nuclei remains untouched.

- Transcript amplification
- Translation into proteins
- Production cycle is 10 days
- Safe synthetic protein for skin care.



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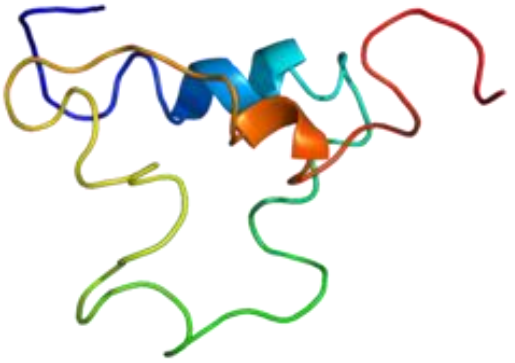
Insulin-like Growth Factor- 1

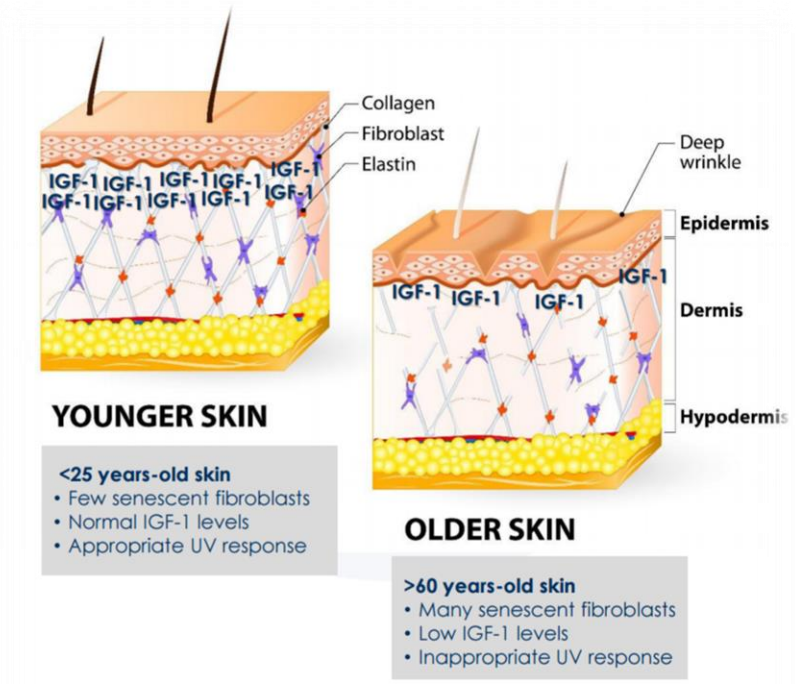
- Cytokines are small, serum-soluble proteins that interact with cell surface receptors. These interactions with specific transmembrane receptors activate a cascade of signals that result in a cellular response.
- Insulin-like Growth Factor-1 is a cytokine that participates in the cellular granulation process during wound healing. During healing, its expression is increased.
- IGF-1 is a polypeptide consisting of 70 amino acids with a molecular weight of 7.47 kDa with an amino acid sequence that is very similar to insulin. IGF-1 exerts similar effects on growth as insulin. The anabolic effects of IGF-1 include stimulation of DNA synthesis, cell proliferation, protein synthesis and glucose transport.



Insulin-Like Growth Factor-1

Essential polypeptide for skin formation and development. Highly abundant in the basal layer of young skin.

- Significantly downregulated in diabetic epidermis (important role in normal wound healing).
- Activation of the IGF-1 pathway during UV exposure prevents accumulation of tissue damage by controlled DNA repair, apoptosis of severe damaged cells & proteasome activation.
- Aged skin has low levels of IGF-1 increasing accumulation of damaged DNA.



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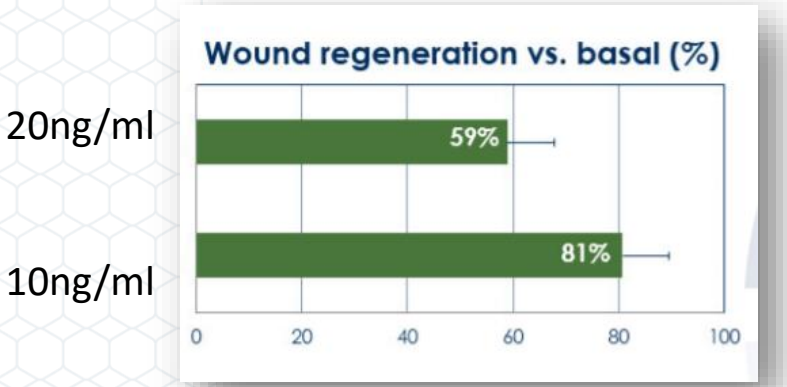
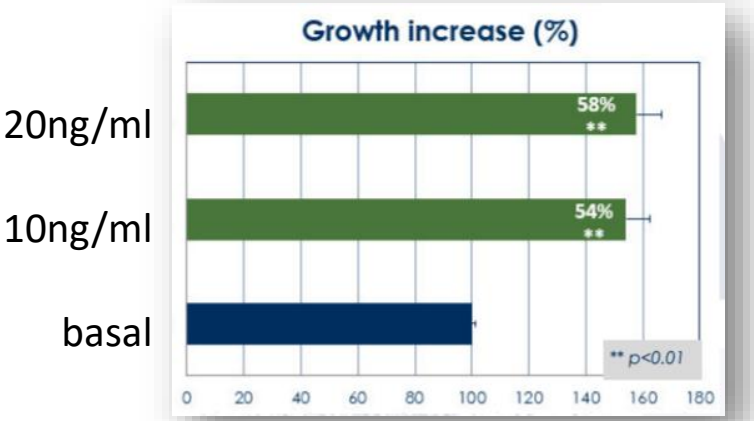
In vitro efficacy of Plant IGF-1: epidermal regeneration (optical microscopy)





80% regeneration of 1 mm wounds on human keratinocytes after 48h incubation with 10ng/ml of the plant IGF-1

Basal 10ng/ml 20ng/ml

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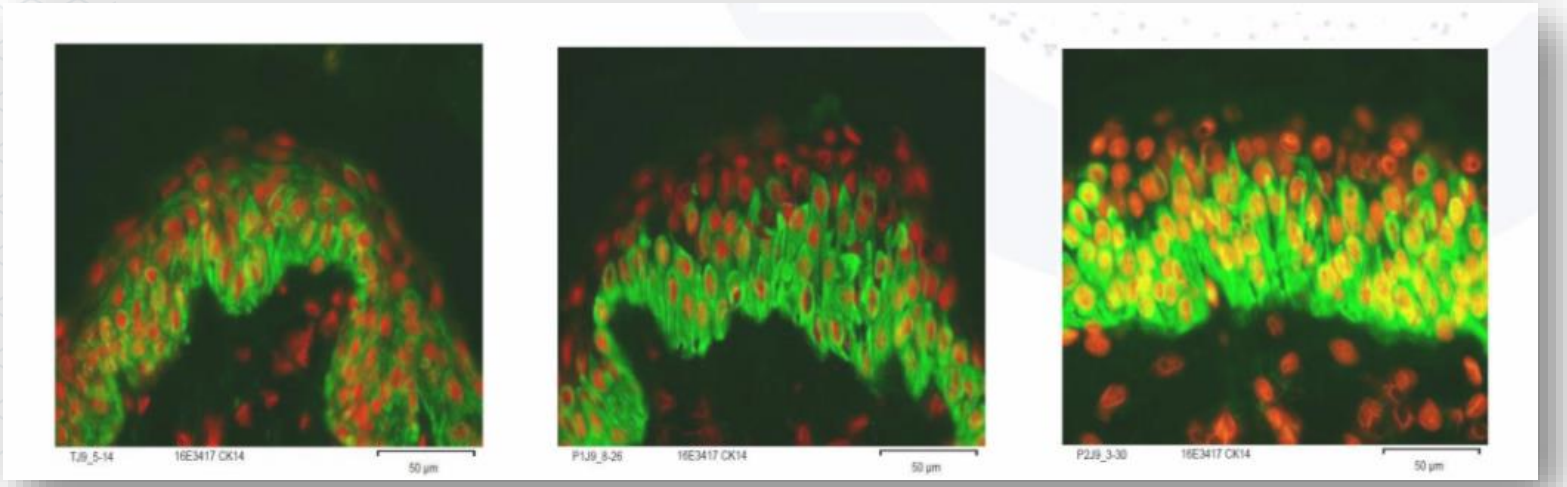
Human skin explants efficacy of plant IGF-1: reactivation of epidermal basal layers (immunofluorescence)

68% significant increase of cytokeratin 14 expression after 9 days of treatment with plant IGF-1



Untreated | Placebo | Plant IGF-1

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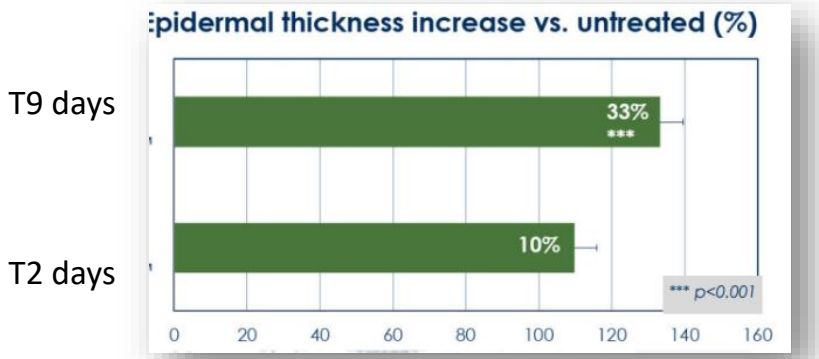
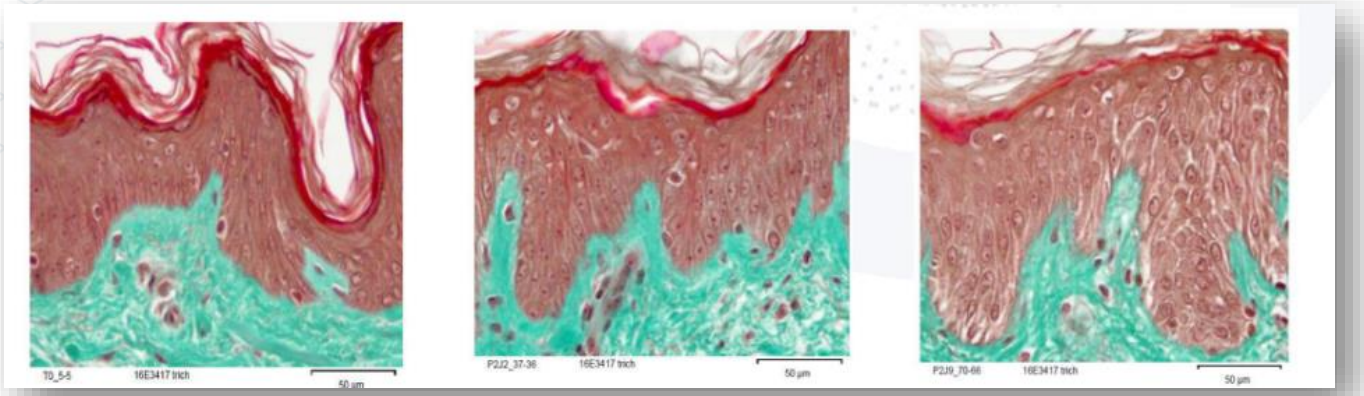
Human skin explants efficacy: re-densification of epidermis (Masson's trichrome staining)

33% significant improvement of epidermal thickness after 9 days of treatment with plant IGF-1





Untreated T2 days T9 days

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New generation of peptides- Pep-Regulin

An engineered peptide that works inside the skin:

- Provides continual skin's repair;
- Broad-spectrum activation of the skin's own natural renewal processes;
- Helps to rejuvenate the skin even when age and UV damage have reduced the ability of the skin's own natural growth factors to work;
- Stimulates new ECM production and minimizes its breakdown;
- Has soothing effect.

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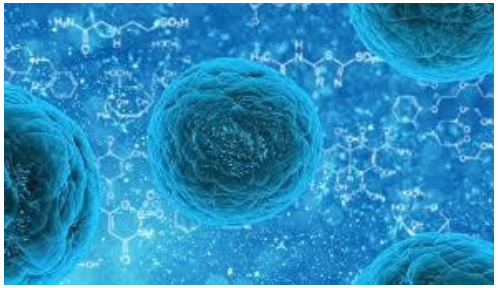
How does Pep-Regulin work?

- ✓ Controls all facets of growth, development, repair and remodelling of skin's tissue;
- ✓ Activates TGFβ signalling in the absence of a healthy skin (loss of TGFβ receptor II)
- ✓ Helps Repair injured skin and increase wound healing;
- ✓ Collagen type I- the most important and abundant dermal collage;
- ✓ Collagen III, VI –dermal collagens abundant in fetal, young & healing skin –decreased in aged skin;
- ✓ Collagen IV, VII- basement membrane collagens;



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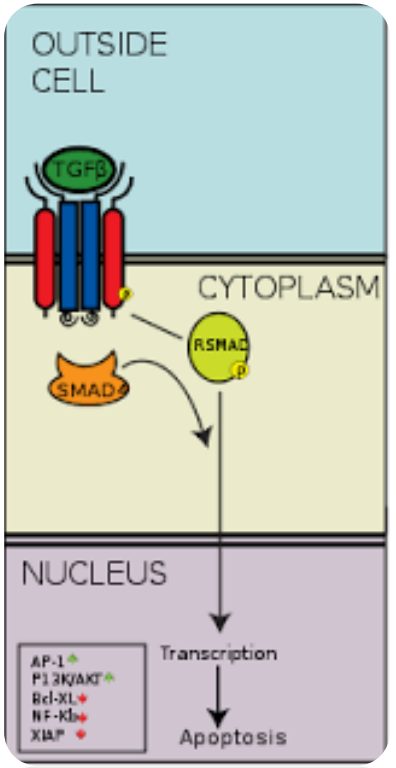
TGFβ-Transforming Growth factor β

- Superfamily of Transforming Growth Factors
- Responsible for optimizing Cell and Tissue Health
- Responsible for normalization and repair after damage
- Helps maintain and rebuild the dermal matrix



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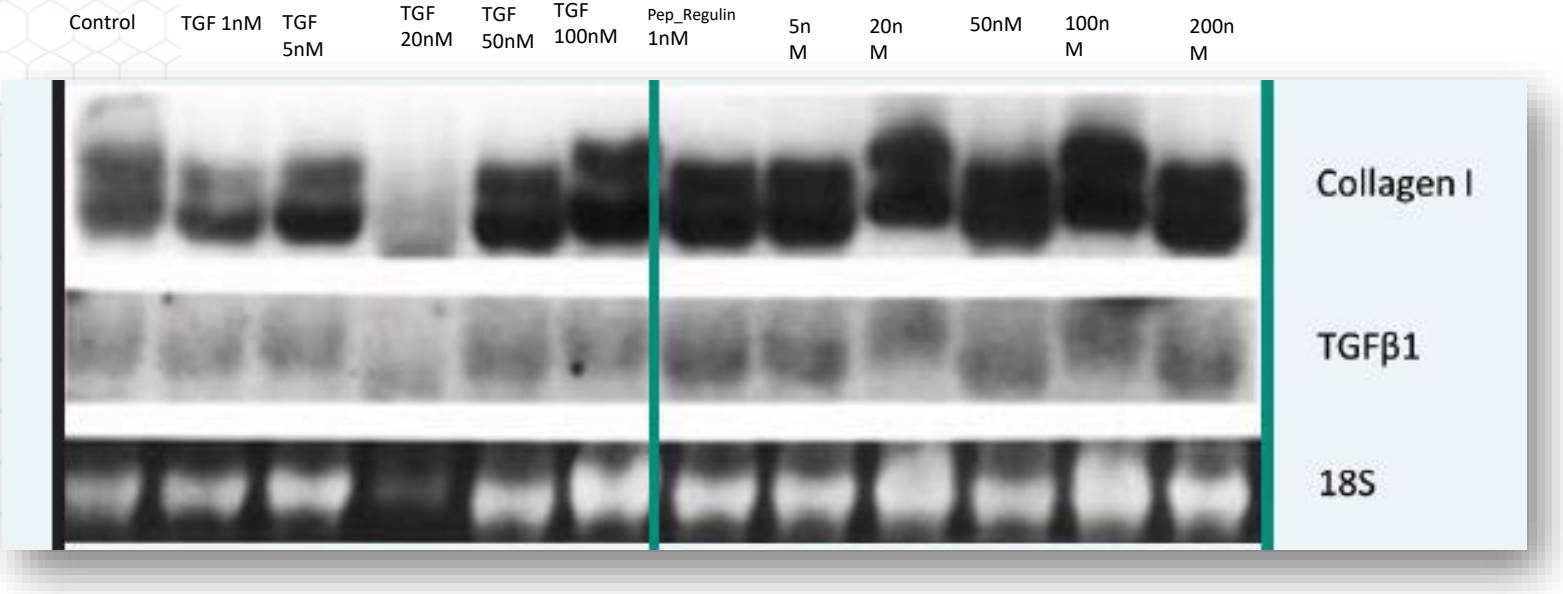
Pep-Regulin Mimics Skin's Natural TGFβ function

Pep-Regulin induces Collagen I in human dermal fibroblasts



TGF-1 Pep-Regulin

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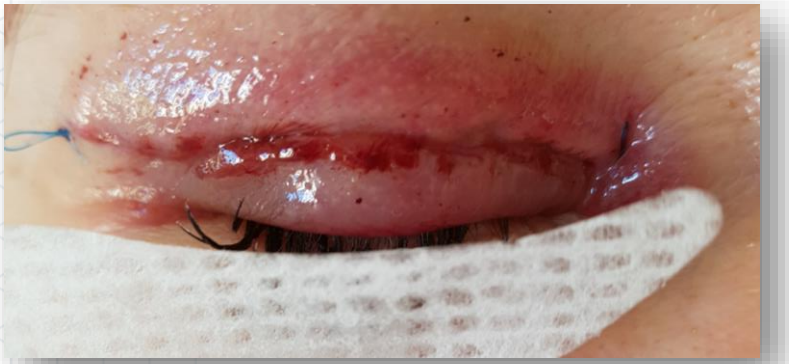
Actives

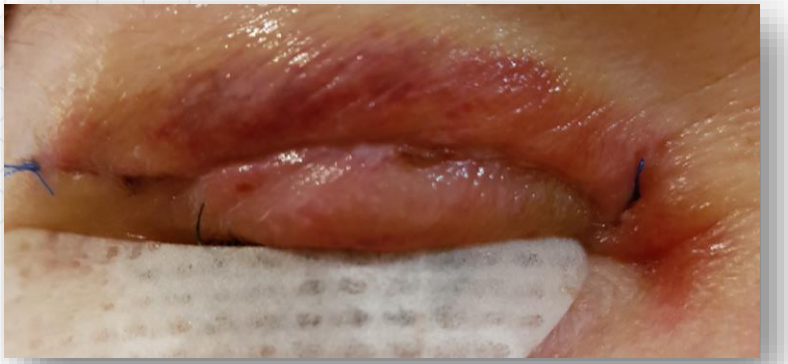
- Gorgonian extract- soothing, anti-inflammatory properties;
- Centella Asiatica- soothing, anti-inflammatory properties;
- Sodium salt of L-PCA- physiological moisturizer;
- Teflose is a branched polysaccharide which contains Rhamnose, Glucose and Glucuronic Acid and is obtained via bacterial fermentation. It can provide a "Teflon-like coating" which inhibits the adhesion of undesirable and/or pathogenic bacterias to the surface of the skin. The Rhamnose content of the polysaccharide is involved in cell communication, which can help to modulate inflammatory responses to aggressions.
- Zinc salt of L-Pyrrolidone Carboxylic acid or L-PCA with antiseptic activity which limit bacterial proliferation. It uses L-PCA as a physiological vector optimizing zinc bioavailability and as a signal molecule to stimulate epidermal differentiation and reinforcing skin barrier function.
- Complex of vitamins A, E and C in nano-particles, strong anti-oxidants and borage oil rich in gamma-linoleic acid to improve skin barrier function.

Clinical tests (blepharoplasty)

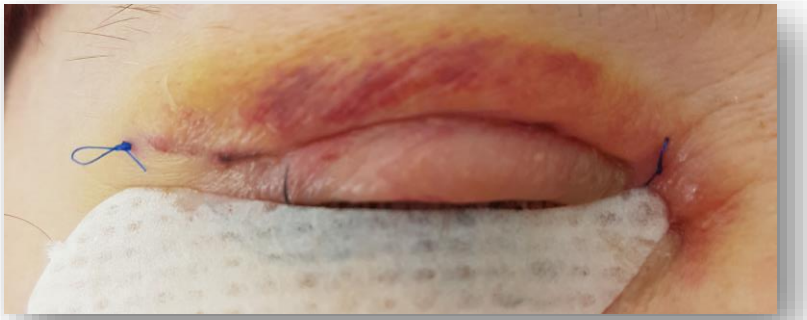


First day after op

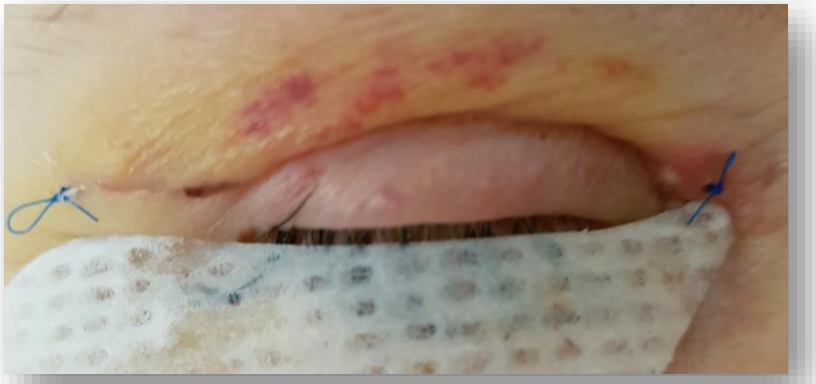
2 day



2 day 4h



2 day 8h



Third day after op

Patient of Dr. Vermon Ching, Precision Aesthetics, Waterfall hospital

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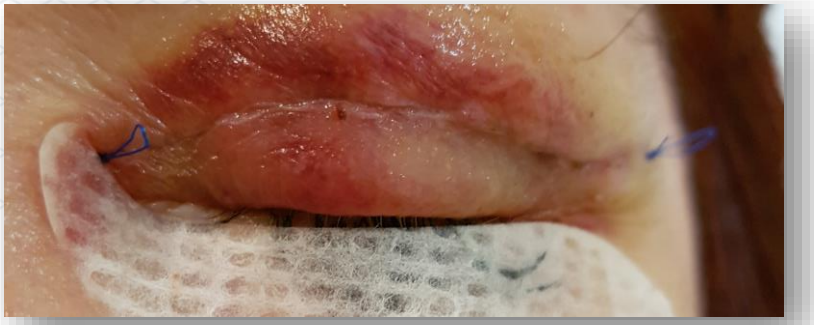
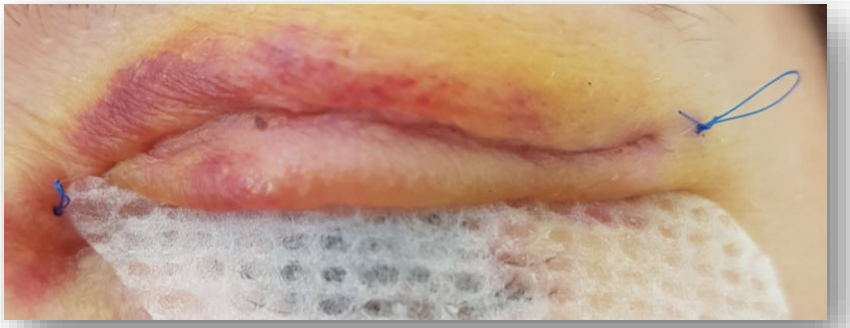
Clinical tests (blepharoplasty)

First day after op

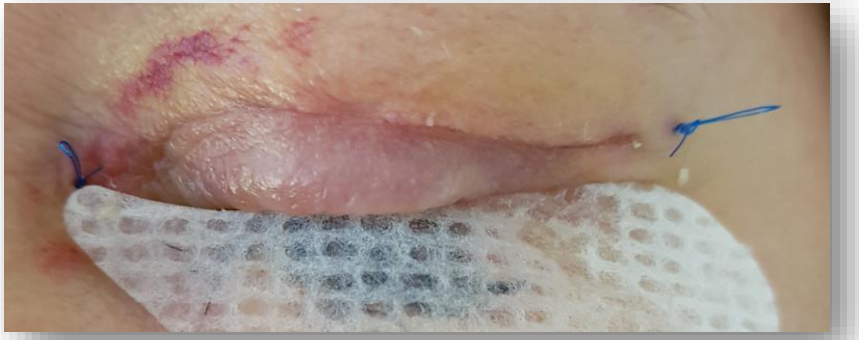
2 day



2 day 4h



2 day 8h



Third day after op

Patient of Dr. Vernon Ching, Precision Aesthetics, Waterfall hospital

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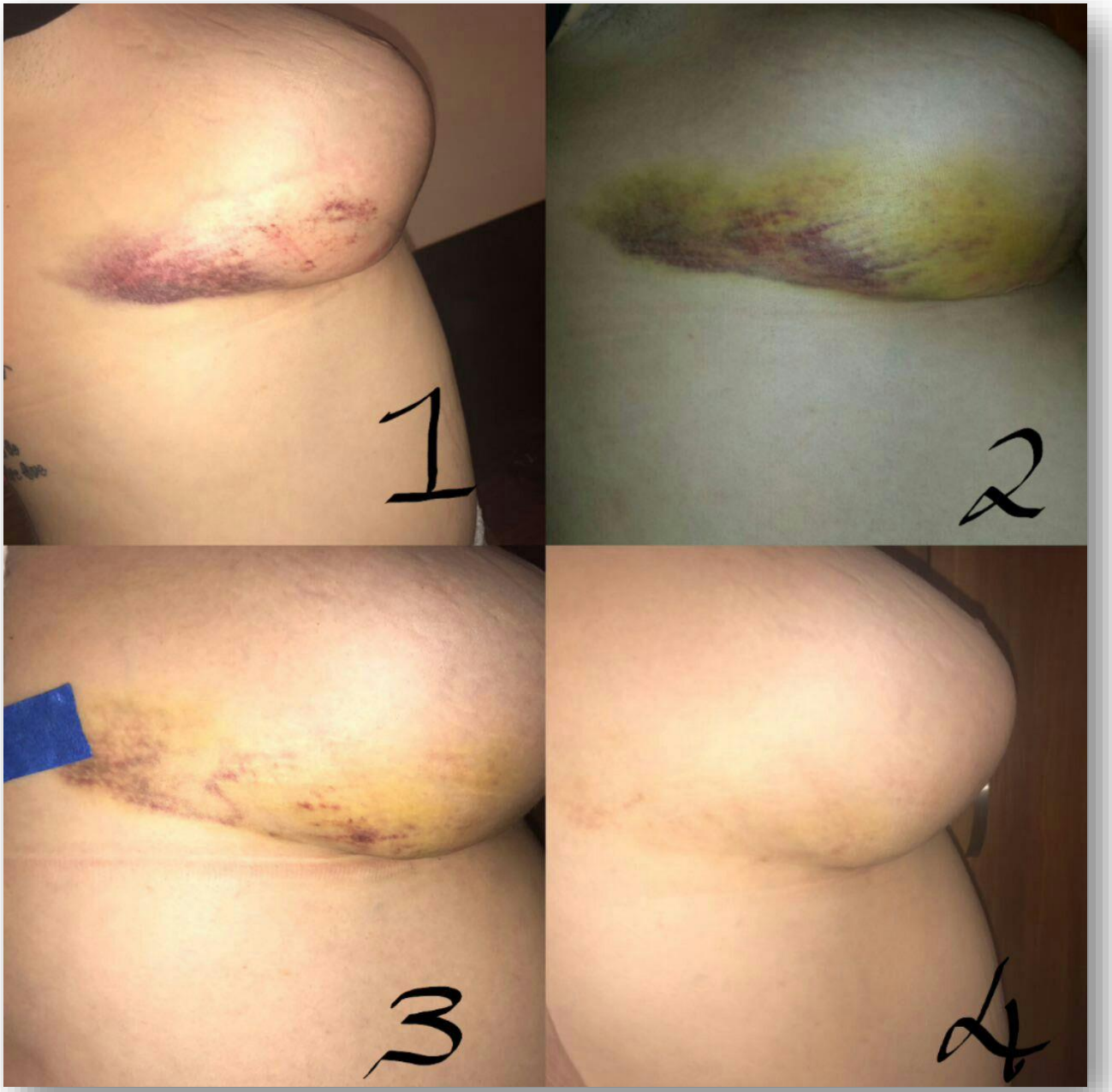
BEFORE AND AFTER

Surgical breast reduction- 7 days- Aɔsthet Recovery Serum



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BEFORE AND AFTER

Surgical breast reduction- 7 days- Aəsthet Recovery Serum

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BEFORE AND AFTER

Micro needling with Dermapen, scar treatment; Aɔsthet Recovery serum applied

Next day, twice daily applications

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BEFORE AND AFTER

7 days hematoma treatment

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BEFORE AND AFTER

Post -op hematoma
5 days

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BEFORE AND AFTER

Post -op hematoma
5 days

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BEFORE AND AFTER

Micro-needling with dermapen 1h

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BEFORE AND AFTER

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Aesthet Recovery Serum *Sanitatem*

- Recommended after **Aesthetic invasive treatments**: Micro-needling, Microdermabrasion, Botox Injections, Restylane/Hylaform Injections, Cosmoderm/Cosmoplast/Collagen Injections and other Injectable Fillers;
- Non-ablative Laser Treatments, Chemical Peels, Laser Hair Removal, Hair Transplants, IPL (Intense Pulsed Light), Retin-A;
- **After Plastic & General Surgery**, Surgery of the face and body, Blepharoplasty and other plastic surgery procedures;
- Liposuction, Tummy Tuck, Upper & Lower Body Procedures.
- As a part of an advanced anti-ageing therapy

  or treatment of dry and damaged skin.

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Aɔsthet Recovery Serum *Sanitatem* application

- Can be applied immediately after aesthetic invasive treatment following twice daily application as a home regimen.
- As Post- surgical treatment Aɔsthet Recovery Serum *Sanitatem* can be applied 12-24 hours post procedure (48 hours post-procedure on incisions measuring 1/4"or larger). Apply morning and night until healing is complete or entire contents are used. If necessary the application can be increased till 3-4 times daily. Do not combine with other skin care products. Your specialist can correct your treatment regimen.
- Aɔsthet Recovery Serum *Sanitatem* is not recommended for use on open wounds, or after procedures that leave skin raw or oozing.