



PLURIAL DENSIFY
FLAWLESS WITHOUT FILTERS

YOUR MOST BEAUTIFUL AGE IS NOW!

**YOUR MOST
BEAUTIFUL
AGE IS NOW!**

MD SKIN SOLUTIONS LABORATORIES

AT A GLANCE

2ND GENERATION FAMILY BUSINESS

13

YEARS

15M

TREATMENTS

70

COUNTRIES

PLURIAL INJECTABLES

REVIVING SELF-CONFIDENCE

THE WIDEST RANGE OF INJECTABLES ON THE MARKET

08

FILLERS

04

DENSIFIERS

02

INTIMATES

04

TECHNOLOGIES

OUR SCIENCE IS EXCELLENCE

Pluryal is actively focused on promoting individual and natural standards of beauty that improve one's look whilst preserving their identity as it firmly believes that every person should feel self-confident and beautiful at any age. Pluryal is committed to innovation and dedicates a significant percentage of its yearly revenues to R&D in order to develop cutting-edge solutions that promote the "Pro-Aging" revolution and provide patients with comprehensive treatments that not only transform their skin, but also their hair and body.

Pluryal releases an innovative concept of densifiers, a brand new generation of injectable devices designed to treat the skin (face and body), the hair and intimate areas.



CATEGORIES OF PLURYAL INJECTABLES

FILLERS, DENSIFIERS & INTIMATES (ESSENTIALS/PN/BIO/LIDOCAINE)

FILLERS

Essentials:

Booster
Classic
Volume

Bio:

Bioclassic
Biovolume

Lidocaine:

Classic Lidocaine
Volume Lidocaine
Contour Lidocaine

DENSIFIERS

PN:

Silk
Densify
Hair Density

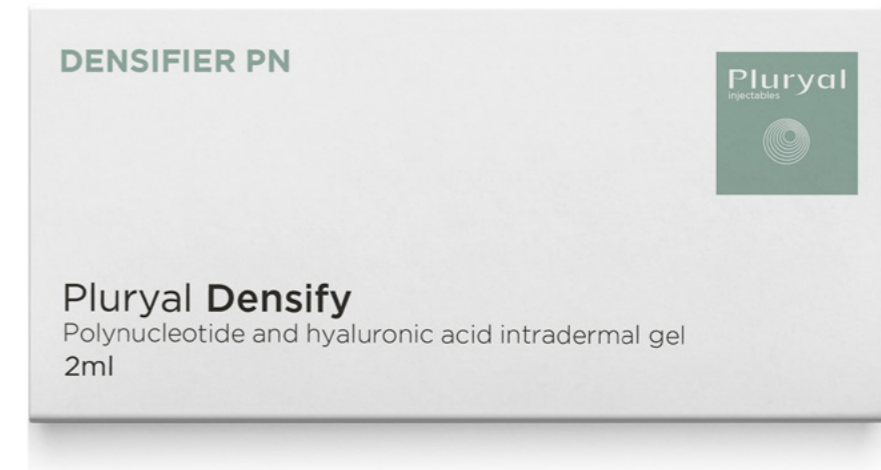
Bio:

Biosculpture

INTIMATES

Bio:

Biointimate
Biointimate Volume



PLURIAL DENSIFIERS

A TOTAL DERMAL REGENERATION

WHY A DENSIFIERS' RANGE?

In today's skincare industry, the demand of patients is moving from "dermal fillers" toward treatments that help achieving a feeling of "well-being" and self-confidence. These treatments answer the growing desire for:

1. "Well-aging" and "natural-looking" results
2. Flawless skin and treatment of skin textural problems
3. Fresh skin and healthy look

A growing number of younger patients is looking for soft and bio procedures with a preventive approach.



FROM "BOOSTER" TO "DENSIFIER"

A skin "booster" is a type of dermal filler used to improve the skin's quality by boosting hydration levels deep within the skin and increasing its smoothness, elasticity and firmness.

A skin "densifier" goes even further as it not only increases the hydration levels deep within the skin but also boosts collagen production and complements the skin's natural ability to self-repair by acting on the fibroblasts and stem cells' activity. It is a skin healer as well as a scalp repairing device.

PLURIAL DENSIFIERS: AN INNOVATION

Pluryal innovates by bringing to the industry the FIRST range of "beauty densifiers" that:

1. Durably and efficiently repairs the skin and hair.
2. Is manufactured in Europe in compliance with EU regulations and EC certification.
3. Uses innovative, patented and unique technologies based on two main actives: highly purified polynucleotides and hyaluronic acid.
4. Offers comprehensive solutions to tackle all skin and hair problems, even in the most delicate areas.

HPN TECHNOLOGY

A REGENERATIVE INNOVATION

HPN TECHNOLOGY: AN EXCLUSIVE PRODUCTION PROCESS OF PHARMACEUTICAL GRADE

Control of every step in the production process, from raw material to finished product.

Pharmaceutical manufacturing standards.

PN of pharmaceutical grade.

High purification of the DNA that guarantees the absence of inflammatory reactions.

Pluryal DENSIFY is an injectable medical device based on the HPN technology.



POLYNUCLEOTIDES

ABOUT POLYNUCLEOTIDES:

Polynucleotides come from the salmon milt, from which, are extracted DNA fractions of different molecular weight (from 80 to 2000 kDa).

They are very close to the human DNA, making them really biocompatible with our skin.

Polynucleotides are polymers composed of many nucleotide units with different chain lengths.

WHAT MAKES THEM UNIQUE?

Our polynucleotides are natural, highly purified and sterilized, thanks to our HPN Technology®.

They are non-allergenic and fully absorbable.

Biocompatible and biodegradable, polynucleotides are known for their **total skin regenerative effect** ^[1].



POLYNUCLEOTIDES

A REGENERATIVE ACTION ^[2]



EFFECTS

1. HYDRATE THE SKIN ^[3]

Polynucleotides have the ability to bind with water molecules and create a gel in 3 dimensions. This gel has a trophic effect: deeply nourishes and hydrates the skin.

2. DENSIFY THE SKIN: STIMULATE THE COLLAGEN ^[4,5,6]

Stimulate the growth of fibroblasts, which synthesize elastin fibers, collagen, HA, growth factors, and other proteins of the extracellular matrix occurs.

3. IMPROVE THE MICROCIRCULATION ^[7]

Enhance tissue oxygenation by promoting the creation of new capillaries (angiogenic effect) and stimulating microcirculation, vascularity and blood flow in existing ones.

This improvement of vascularization is particularly important in the periocular area and the hair bulb.

4. PROTECT THE SKIN ^[8,9,10]

Protection against free radicals by Scavenger effect: Polynucleotides can combine with free radicals and block the effects of free radicals.

Anti-inflammatory: Powerful anti-inflammatory effects by reducing various inflammation causing cytokines while increasing anti-inflammatory cytokines.

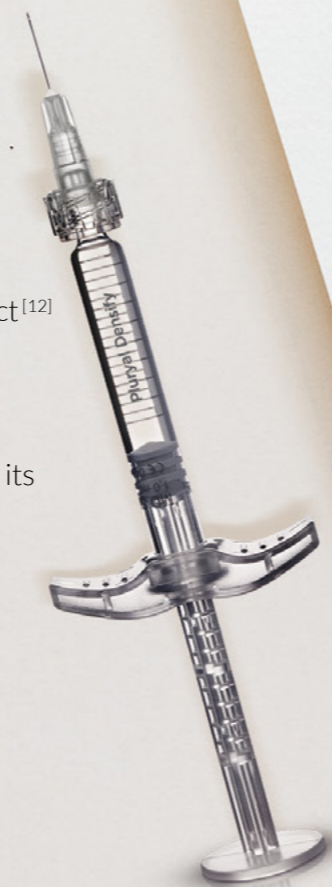
5. REJUVENATE THE SKIN ^[11]

Polynucleotides generate nucleotides and nucleosides that can contribute to DNA formation, thus reactivating normal cell proliferation and growth pattern.

A TOTAL REGENERATIVE EFFECT FOR TIRED SKIN (FACE AND BODY)

A UNIQUE POWERFUL PRODUCT WITH BOLD ADVANTAGES

1. Unique and effective mix of three powerful actives: PN 20mg, HA 20mg and Mannitol 80mg per syringe with a Synergetic effect^[12]
2. Natural and degradable ingredients
3. Safe product: totally degradable and bio-compatible, with high tolerance
4. Clinically proven skin rejuvenation
5. Scientifically proven to restructure the skin's collagen levels and improve its elasticity
6. Offers natural results



PLURIAL DENSIFY

REPAIRS THE SKIN OF REGULAR AREAS

PLURIAL® DENSIFY is an isotonic, viscoelastic, non-pyrogenic, sterile gel.

Composition:

Polynucleotides 20mg (10mg/mL): tissue regeneration

Hyaluronic acid 20mg (10mg/mL): deep moisturization

Mannitol 80mg (40mg/mL): prolongs the action of hyaluronic acid by protecting it from degradation

Sterilization: Steam

Main Action: Total repair of the skin texture and color

Target Age Group: Starting the age of 30

Injection Level: Deep dermis / Superficial Hypodermis

Administration: 1 x 2ml syringe | 2 x 30G^{1/2} needles

Regulatory: Syringe (CE 0373, MD Skin Solutions) | Needles (CE 0318, BD)

TREATMENT FREQUENCY



YOUNG SKINS

Initial Treatment

3 injections with 3-week intervals

Maintenance Treatment

1 injection every 3 months



TIRED SKINS

Initial Treatment

3 injections with 3-week intervals

Maintenance Treatment

1 injection every other month

Preparation for aesthetic treatments (=the "bio-revitalization" phase): 4 injections with 1-week intervals
For Recently Aggressed Skins: (post-laser, surgery or fillers): wait 3 weeks before starting the treatment course

PLURIAL DENSIFY

REPAIRS THE SKIN OF REGULAR AREAS

INJECTION TECHNIQUES



1. Microdroplet technique (subdermal papules): 0.05 cc per injection with 1cm intervals between injections.
2. Double7Lift Technique: use a cannula 18-22G/70-90mm along the skin injecting the product from a single entry point, in a fan pattern.
3. Cannula technique (other areas): 18-22G / along the skin
4. Double7Lift Technique in combination with Pluryal® Biosculpture: mix the two products and use the total quantity (3.1cc) by distributing it equally to both sides of the face (1.55cc per side), in a fan pattern, by using a cannula 18-22G/70-90mm in single entry point.

WHO IS A CANDIDATE FOR PLURYAL DENSIFY?

Pluryal® Densify is designed to treat regular skin areas which need to be repaired.

Everyone can benefit from this treatment, but mainly patients who are:

1. Asking for an improved skin condition: texture and color
2. Seeking for skin rejuvenation (except the under eye area): dull and tired skin, signs of fatigue, lack of radiance and lack of firmness
3. Desiring to treat dehydrated skin
4. Willing to treat aggressed skin (after an aesthetic procedure)
5. Looking for a safe and natural treatment that is different from dermal fillers
6. Wishing to prepare their skin for other aesthetic treatments (filler, laser, peelings...)

TARGET AREAS

1. Whole face (except the under eyes)
2. Back of the hands
3. Neck
4. Décolletage

PLURIAL DENSIFY

UNIQUE & ORIGINAL FORMULA FOR A COMPLETE DERMAL REGENERATION

PN	+	HA & MANNITOL
POLYNUCLEOTIDES TROPIC STIMULUS		HYALURONIC ACID ENRICHED WITH MANNITOL SKIN HYDRATION
FIBROBLAST STIMULATION ECM PRODUCTION COLLAGEN INCREASE		INCREASED TURGESCEENCE ENHANCED FIBROBLAST SURVIVAL RATE SYNERGY WITH PNS

RESTORATION OF THE SKIN FUNCTION
AESTHETIC IMPROVEMENT
CUSTOMER SATISFACTION

The PN + HA + Mannitol mixture produces a synergic, dermal densification action.^[13]

POLYNUCLEOTIDES SKIN REPAIR ACTION

The polynucleotides used in Pluryal® Densify:

1. Deeply moisturize the skin
2. Densify the skin by stimulating fibroblasts activity (synthesis of elastin, collagen, HA...)
3. Improve the microcirculation and tissue oxygenation
4. Protect the skin against free radicals and against inflammatory cytokines
5. Rejuvenate the skin

HYALURONIC ACID

Natural, non-cross-linked and highly purified hyaluronic acid produced by bio-fermentation of *Streptococcus equi*

1. Thanks to its strong, deeply moisturizing, and fibroblast-survival-enhancing power, this component is essential to the dermal extracellular matrix and provides the epidermis with turgescence and elastic mechanic properties.
2. Synergy with PN.

MANNITOL

Mannitol has both hydrating and antioxidant properties.^[14, 15]

The free radical scavenging properties of mannitol provide it with a three-fold mechanism of action when combined with HA :

1. Reducing the inflammation and swelling associated with the injection procedure itself
2. Protects the skin from free radicals
3. Preventing the degradation of the injected HA and prolongs its durability within the skin

PROVEN EFFICACY

IN-VITRO STUDY (fibroblast cell model)

In another trial comparing 3 formulations^[16]:

One with pure hyaluronic acid [100%]

A second one with pure polynucleotides [100%]

A third one with a mixture of HA and PN [50%/50%]

(Same total concentration for the 3 formulations)

Synergistic effect of HA + PN association on human fibroblast cultures

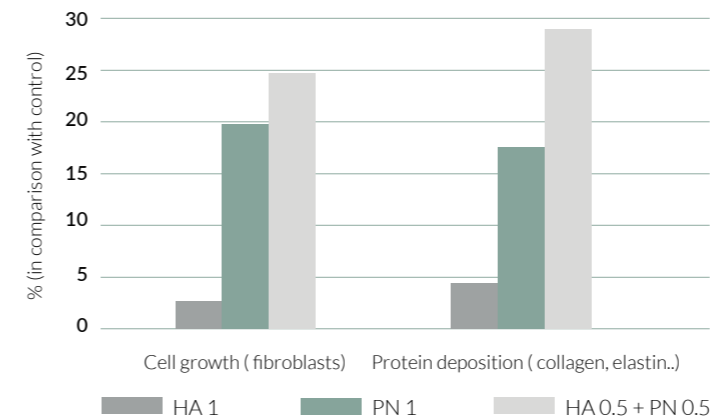


Fig. 1: Effect of PN, HA and synergetic association of PN+HA on fibroblasts number and protein deposition

By combining HA and PN in a 50/50 ratio, a **synergistic effect** in cell regeneration and the deposition of protein matrix is obtained, the combination is **more efficient**, the **stimulating action on fibroblasts is higher** than other formulations (100% pure HA or PN).

That's why the ratio of 50 % HA / 50 % PN was specially selected in Pluryal® DENSIFY (10mg/mL HA + 10mg/mL PN). With the addition of mannitol (40mg/mL), our product is one of the most complete and efficient.

EX-VIVO STUDY (skin explants)

In an ex-vivo study^[17] conducted by an independent laboratory in France, Pluryal® DENSIFY has proven to increase fibronectin in the papillary and upper reticular dermis. (fig.2)

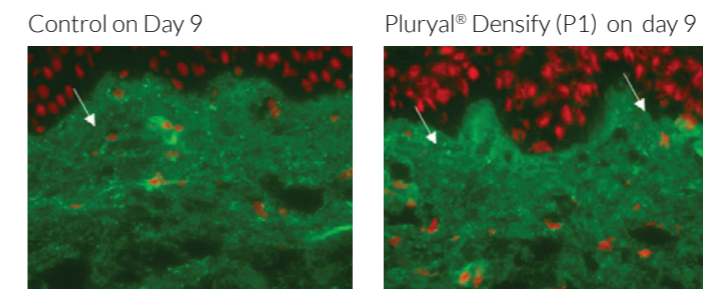


Fig.2 : Fluorescence immunolabeling of fibronectin with and without Pluryal® DENSIFY after 9 days on skin explants

Fibronectin is a structural protein found in the extracellular matrix. It is one of the ligands contained in integrins. It plays various biological roles in the skin: it represents a growth factor, an adhesion molecule, as well as a chemotactic agent for fibroblasts^[18] and it contributes to collagen fibril deposition and assembly. In addition, it controls the migration of keratinocytes during the healing process^[19]. Fibronectin stimulates fibroblasts and is involved in the collagen network restructuration within the extracellular matrix. Immunolabelling of fibronectin shows that the greener fluorescence there is, the more fibronectin there is.

IN-VIVO STUDY (clinical cases)

A case study was conducted in Ukraine by Professor Turkeyych^[20] on several patients. The skin was analyzed before treatment and after 2 procedures using Pluryal® DENSIFY with the VISIA software machine. The VISIA software assesses the skin age ("TruSkin Age") before and then after the treatment, according to various parameters:

Pigmentation | Wrinkles depth | Skin texture | Pores | UV spots | Brown spots | Vessels | Porphyrin

On average, the patients' skin was rejuvenated by 7 years after only 2 procedures using Pluryal® Densify.

VISIA-FACIAL SKIN ANALYSIS REPORT

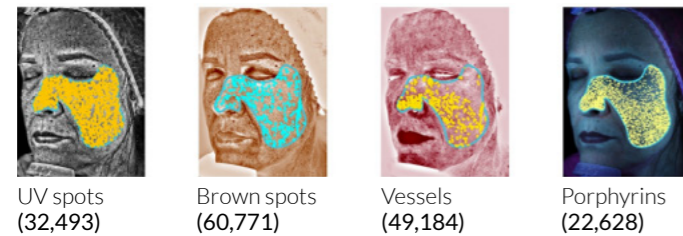
CASE 1:

Before



YOUR REAL AGE
53

YOUR "TRUSKIN AGE"™
59



Patient real age: 53

VISIA assesses her age as 59: according to the analyzed parameters, she looks older than she really is.

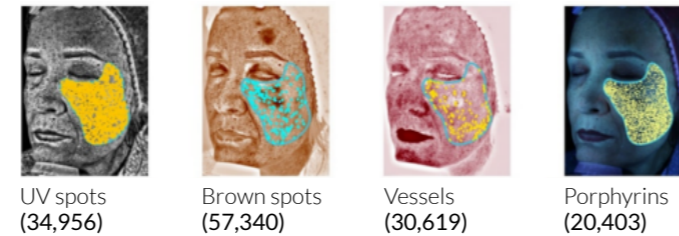
After only two treatments, the skin patient (measured by VISIA) drops from 59 to 44: gain of 15 years!

After 2 procedures



YOUR REAL AGE
53

YOUR "TRUSKIN AGE"™
44



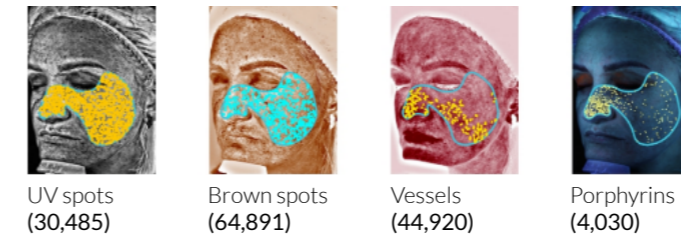
CASE 2:

Before



YOUR REAL AGE
38

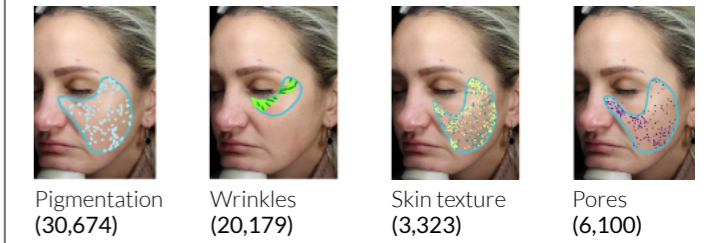
YOUR "TRUSKIN AGE"™
41



Patient real age: 38

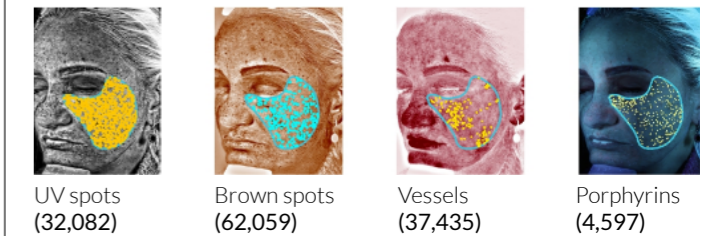
VISIA assesses her age as 41: according to the analyzed parameters, she looks older than she really is.

After 2 procedures



YOUR REAL AGE
38

YOUR "TRUSKIN AGE"™
29

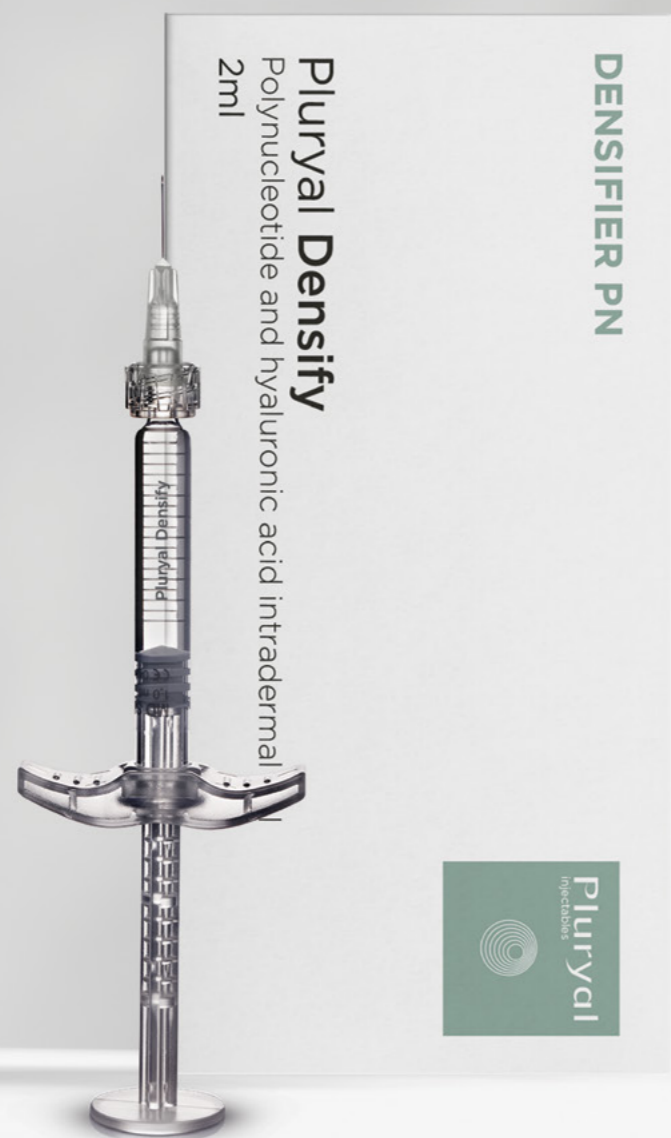


After only two treatments, the skin patient (measured by VISIA) drops from 41 to 29: gain of 12 years!

Courtesy of Prof. Alexander TURKEYYCH

Pluryal® DENSIFY is a synergetic mix of 3 active ingredients.
It significantly improves the global appearance and quality of the skin.

DIMINISH
YOUR SKIN
AGE



Pluryal® DENSIFY is a class III medical device which must only be used by doctors who have received specific training on the intradermal injection techniques. Read the instructions before use. Inform the patients about possible side effects.

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- ¹⁸ Akiyama et al., The journal of Cell Biology. 1989. 109: 863-875; Bitterman et al., 1983. The Journal of Cell Biology. 97: 1925-1932; Postlethwaite et al., 1981 The journal of experimental medicine. 153: 494-499.3.
- ¹⁹ Larjava et al., 2002. Cell invasion. 3: 42-64.
- ²⁰ Pluryal's Study with Professor Turkevych on 10 patients.

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