

**PLURYAL FILLERS**  
REVIVING SELF-CONFIDENCE

**YOUR MOST BEAUTIFUL AGE IS NOW!**

**YOUR MOST  
BEAUTIFUL  
AGE IS NOW!**

A black and white photograph of a modern laboratory. The scene is dominated by long, white laboratory benches. On the benches, there are various pieces of glassware, including round-bottom flasks, Erlenmeyer flasks, and beakers. In the background, there are metal racks holding numerous glass bottles or vials. The lighting is bright and even, highlighting the clean, professional environment of the lab.

# MD SKIN SOLUTIONS LABORATORIES AT A GLANCE

2<sup>nd</sup> Generation Family Business

**12**

years

**13M**

Treatments

**70**

countries

# PLURYAL INJECTABLES

Reviving self-confidence

**8**

Fillers

**5**

Densifiers

**4**

Technologies





## OUR MISSION: A PRO-AGING LIFE COACH

At Pluryal we believe that  
**“YOUR MOST BEAUTIFUL AGE IS NOW”**

We believe in promoting individual standards of beauty that enhance physical appearance while preserving the natural features and identity.

To help your patients feel confident about themselves at any age, we have developed a 360° approach consisting of a wide range of injectables that will help provide your patients with a full holistic treatment approach, scientifically proven to improve the texture, shape and volume of the skin, hair and body.



#### QUALITY GUARANTEED

Pluryal products are manufactured in line with strict international standards: ISO 13485 and MDD93/42 (for medical devices) and ISO 22716 (for cosmetics). All of our products are subject to strict quality controls, individually inspected, manually and visually assessed, one by one, before their release to the market.

#### CONTINUOUS INNOVATION

Pluryal is committed to continuous innovation and dedicates a significant percentage of its yearly revenues to R&D. This year, Pluryal will be releasing an innovative concept of “densifiers”, a brand-new generation of injectable devices designed to treat skin (face and body), hair and intimate areas.

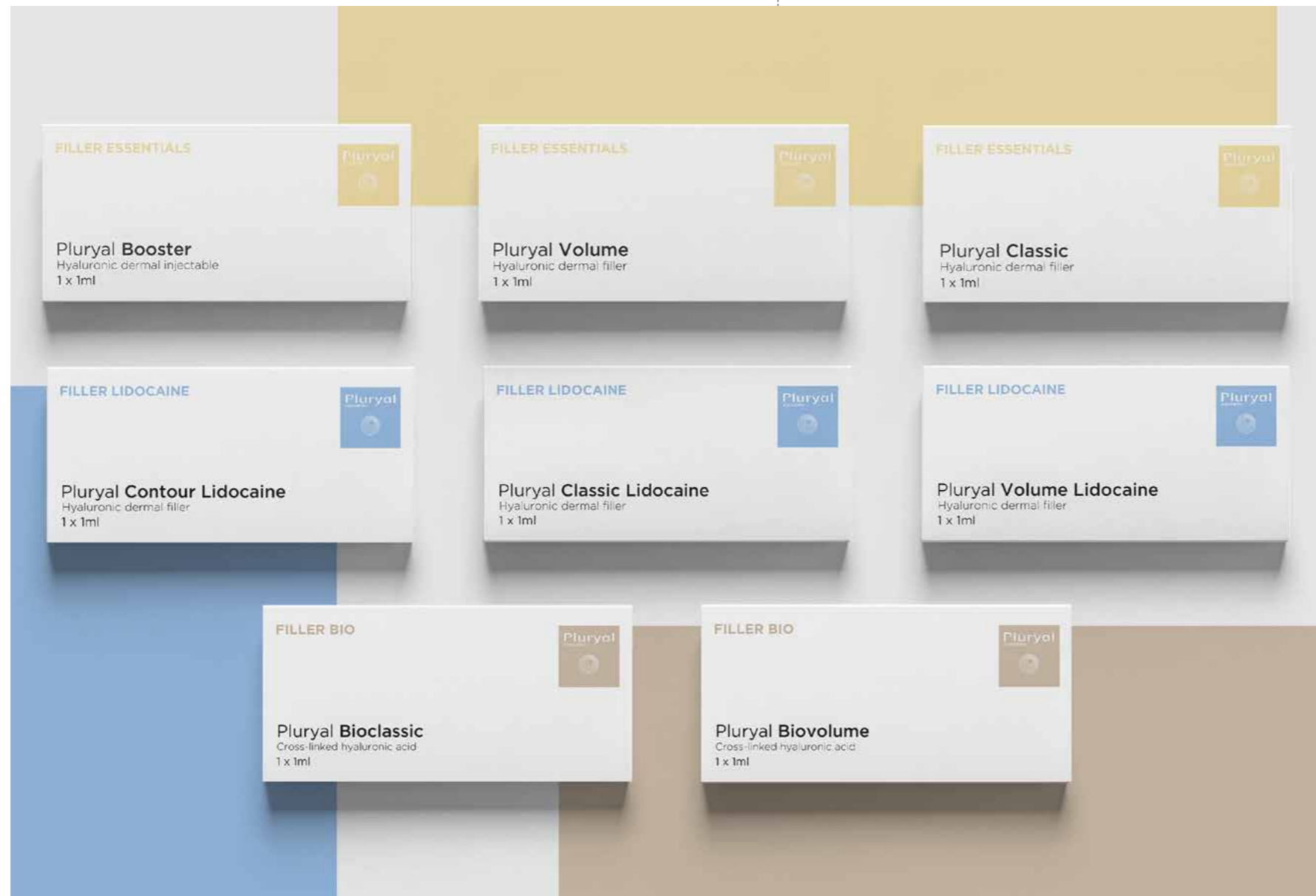
#### STUDIES & CLINICAL TRIALS

To ensure the safety and efficacy of all Pluryal products, clinical trials and tests are continuously conducted. Furthermore, our Pluryal Academy is dedicated to regularly train and educate all Pluryal physicians around the Globe on how to apply the precise protocols in order to guarantee the best results for patients.



**OUR  
SCIENCE IS  
EXCELLENCE**

# 3 RANGES 3 TECHNOLOGIES



**FILLERS  
ESSENTIALS**  
P.R.E.M.I.U.M

**FILLERS  
LIDOCAINE**  
P.R.E.M.I.U.M LIDOCAINE

**FILLERS BIO**  
MATRICYAL 3D

# PLURIAL FILLERS

ESSENTIALS  
P.R.E.M.I.U.M. TECHNOLOGY

## PLURIAL FILLERS ESSENTIALS P.R.E.M.I.U.M. TECHNOLOGY

The “ESSENTIALS” line of Pluryal fillers is based on the P.R.E.M.I.U.M. technology

### **Pure**

The purification after cross-linking controls the level of residuals of endotoxins and BDDE.

### **Reticulated**

Proven for its tolerance, efficiency and safety, Pluryal CLASSIC and Pluryal VOLUME are both cross-linked with BDDE (1,4-Butanediol-diglycidyl-ether). Pluryal BOOSTER is stabilized with glycerol because it is proven to improve skin brightness, elasticity and turgor, and it is better resistant to degradation.

### **Elastic**

A gel has a high or lower elasticity when the response to the deformation is regained in a short or long time after the removal of the applied force. This parameter is determined by the HA concentration, the molecular weight of the HA and the share of the non-cross-linked HA in the final product. It has a consequence on the smoothness and natural effect of the results.

### **Monophasic**

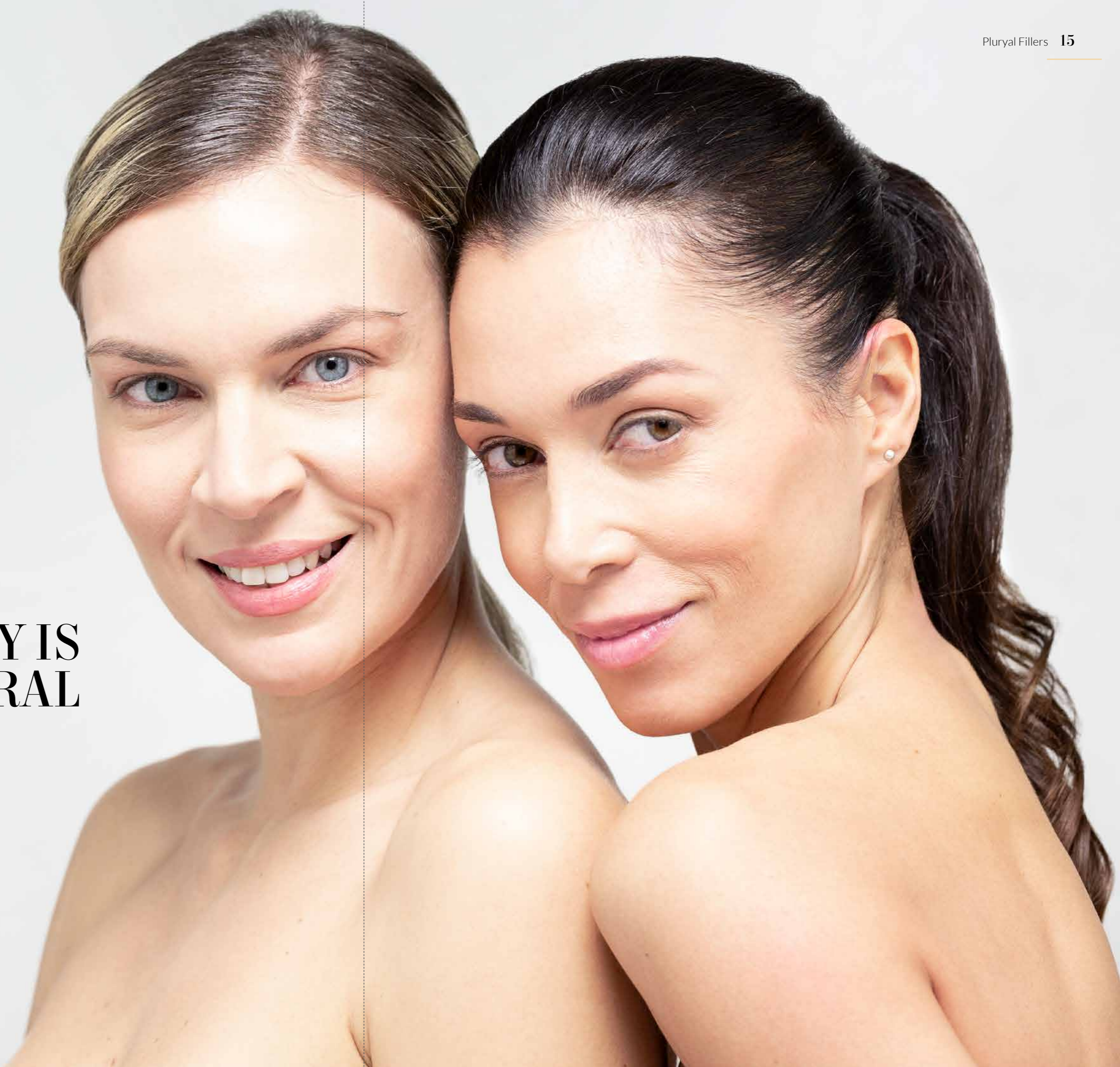
Pluryal fillers are homogeneous gels free from particles. The main advantages are a uniform degradation, without the need to over-correct, and a smooth and natural feeling to the touch and sight, especially in the lips.

### **Isotonic**

pH and osmolarity are adjusted to physiological conditions, for an improved comfort during treatment.



**BEAUTY IS  
NATURAL**





## User-Friendly

**Low extrusion force**  
due to conical shape\*

**Low patient infection risk \*\***  
Higher product quality in terms  
of extractables and leachables  
contamination

**Safe application\*\*\***  
Extra grip surface at backstop and  
plunger rod for better hold



**Comfortable handling**  
Solid designed components for a  
safe and pleasant routine work.

**Visual orientation**  
Easy and fast overview

**Innovative design**  
Awarded with iF Design Award  
2017.

\* EPC (End Product Control): Extrusion force is tested on every batch

\*\* Evaluation of component stability in accordance with ASTM D4169 and material qualification of components

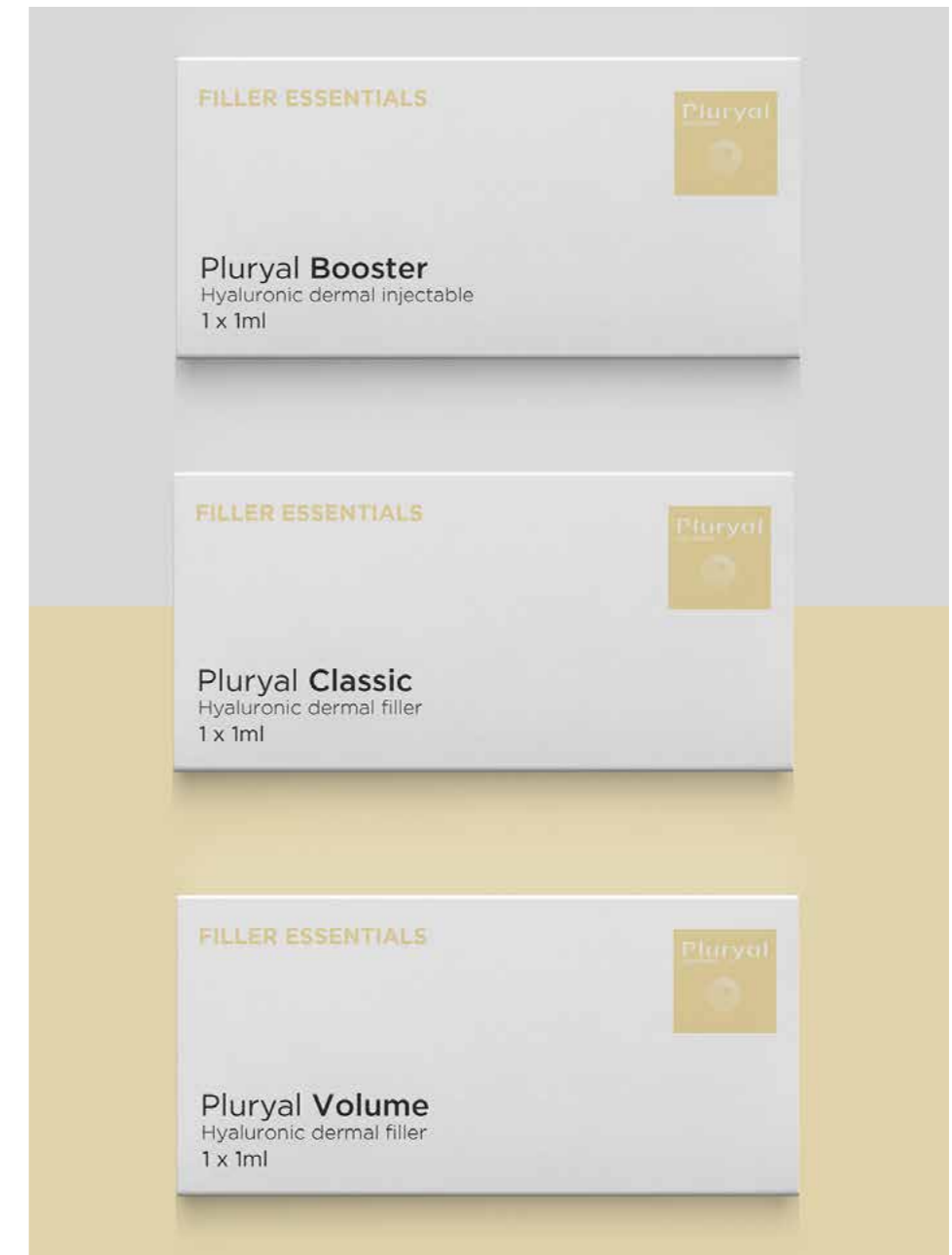
\*\*\* Manufacturer's data on file

## Maximized Remanence

HA fillers with greater  $G'$  (elastic modulus) have better filling effect and longer retention time in soft tissue.

Pluryal Classic  $G'$  (195,000 mPa) and Pluryal Volume  $G'$  (400,000 mPa) are superior to competitors with comparable viscosities and indications.

## PRODUCTS: PLURYAL BOOSTER PLURYAL CLASSIC PLURYAL VOLUME



Pluryal Booster, Pluryal Classic and Pluryal Volume are sterile, biodegradable, viscoelastic, clear, transparent, isotonic and homogenized injectable gel implant. The devices consist of stabilized or cross-linked hyaluronic acid (HA), obtained from *Streptococcus equi* bacteria, formulated to concentrations varying between 18mg/ml to 23 mg/ml in a physiologic buffer. They are manufactured according to the PREMIUM technology.

## PLURIAL BOOSTER

**HA concentration** 1.8% (18mg/ml)

**Other ingredients** Phosphate citrate buffer

**Stabilizing / Cross-linking** Glycerol 2.0% (20mg/ml)

**Extrusion Force (N)** 8

**Endotoxins (EU/ml)** < 0.5

**Molecular weight (Da)** 3 million

**Sterilization** Steam sterilized

### Indications

Replenish the loss of hyaluronic acid due to aging, to maintain hydration, to improve tone and elasticity of the skin and to act as a filler for small lines such as crow's feet, smile lines or smoke lines surrounding the mouth.

### Clinical data

Proven efficacy in a published study\* conducted on 20 volunteers in Iran:

Significant increase in gross and net elasticity 4 months after the last session

85% patients' satisfaction

Treatment was safe and convenient to all patients

**Level of injection** Superficial dermis

**Treatment frequency** 3 sessions at intervals of 2-3 weeks, then as required

\*Ayatollahi A, Firooz A, Samadi A. Evaluation of safety and efficacy of booster injections of hyaluronic acid in improving the facial skin quality. *Journal of Cosmetic Dermatology*, Volume 19, Issue 9, Sept-2020.

## PLURIAL CLASSIC

**HA concentration** 2.3% (23mg/ml)

**Other ingredients** Phosphate buffer, NaCl.

**Stabilizing / Cross-linking** BDDE+++ (≤ 2 ppm)

**Extrusion Force (N)** 10

**Endotoxins (EU/ml)** < 0.5

**Molecular weight (Da)** 3 million

**G' factor (mPa)** 195,000

**Sterilization** Steam sterilized

### Indications

Correct moderate to severe nasolabial folds. Used for cosmetic and medical reconstructive purposes in the treatment of e.g. facial lipoatrophy, debilitating scars or morphological asymmetry.

### Clinical data

Proven efficacy in 2 published studies conducted on 15 and 22 volunteers in France:

#### Study 1\*

Efficient in treating the wrinkles such as bitterness lines and nasolabial folds

Efficacy maintained after 6 months of injection

Treatment was safe and well tolerated by all patients

#### Study 2\*\*

Efficient in improving the skin texture (wrinkles, tone and radiance)

Objective assessment found improvement by comparing photographs in 82% of the treated patients.

Another multi-centre study\*\*\* conducted on 70 patients and led by Dr Marina Landau has shown the efficacy and safety of the product in treating nasolabial folds.

**Level of injection** Mid to deep dermis.

**Treatment frequency** Every 5-6 months or as required

\*Boisnic S, Ben Slama L. Intérêt d'un nouveau traitement anti-âge avec application transdermique par roller des produits Mesoline Refresh et Tight, associée à des injections de Pluryal. *J. Med. Esth. Et Chir. Derm.* Vol XXXVIII, 152, décembre 2011, 225-250.

\*\* Mole B. De l'intérêt d'un acide hyaluronique réticulé et stabilisé en mésothérapie. *J. Med. Esth. Et Chir. Derma.* Vol XXXIV, 174, juin 2017, 95-101.

\*\*\* Landau M. Examining the safety and efficacy of a non-animal cross-linked hyaluronic acid. *Prime November/ December 2011, pages 42 - 48.*



## PLURYAL VOLUME

**HA concentration** 2.3% (23mg/ml)

**Other ingredients** Phosphate buffer, NaCl.

**Stabilizing / Cross-linking** BDDE++++ (≤ 2 ppm)

**Extrusion Force (N)** 12

**Endotoxins (EU/ml)** < 0.5

**Molecular weight (Da)** 3 million

**G' factor (mPa)** 400,000

**Sterilization** Steam sterilized

### Indications

Correct deeper wrinkles and folds, increase or restore volume to the face and to remodel facial contours. Used for cosmetic purposes but such device can also address medical reconstructive purposes in the treatment of e.g. facial lipoatrophy, debilitating scars or morphological asymmetry.

### Clinical data

Proven efficacy in a published study\* conducted on 48 patients in Austria:

Significant reduction in nasolabial fold severity according to the MFWS scale at 270 days compared to baseline.

97.9% GAIS improvement at the end of the study (Day 270) in nasolabial fold appearance.

89.4% subject satisfaction was high.

Proven efficacy in a prospective, split-face, randomized, evaluator and subject-blinded, multicenter, non-inferiority trial\*\* where 120 subjects were randomized to bilateral NLF treatment with PV administered in one NLF and Restylane® (RL) administered in the other NLF:

Results indicate that the Pluryal Volume is as efficient as the Restylane.

**Level of injection** Deep dermis or subcutis.

**Treatment frequency** Every 9-12 months or as required

\*Kopera et al. An Open-label uncontrolled, multicenter study for the evaluation of the efficacy and safety of the dermal filler Princess VOLUME in the treatment of nasolabial folds. *Biomed Research International*, Volume 2015, 7 pages.

\*\* Dai et al. Safety and effectiveness of hyaluronic acid dermal filler in correction of moderate-to-severe nasolabial folds in Chinese subjects. *Clinical, Cosmetic and Investigational Dermatology*, 2019: 12, 57-62.

## TARGET AREAS WITH PLURYAL FILLERS ESSENTIALS



1. Nasolabial folds | 2. Jawline | 3. Glabellar lines | 4. Bitterness lines  
5. Cheeks | 6. Skin texture | 7. Neck | 8. Hands | 9. Décolleté

# PLURIAL FILLERS

**LIDOCAINE**  
P.R.E.M.I.U.M. LIDOCAINE  
TECHNOLOGY

## PLURIAL FILLERS P.R.E.M.I.U.M. LIDOCAINE TECHNOLOGY

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The "LIDOCAINE" line of Pluryal fillers combines the P.R.E.M.I.U.M. technology to the lidocaine addition (0.3% lidocaine hydrochloride).

The ancillary role of lidocaine hydrochloride is to reduce the pain associated with injections into the skin.

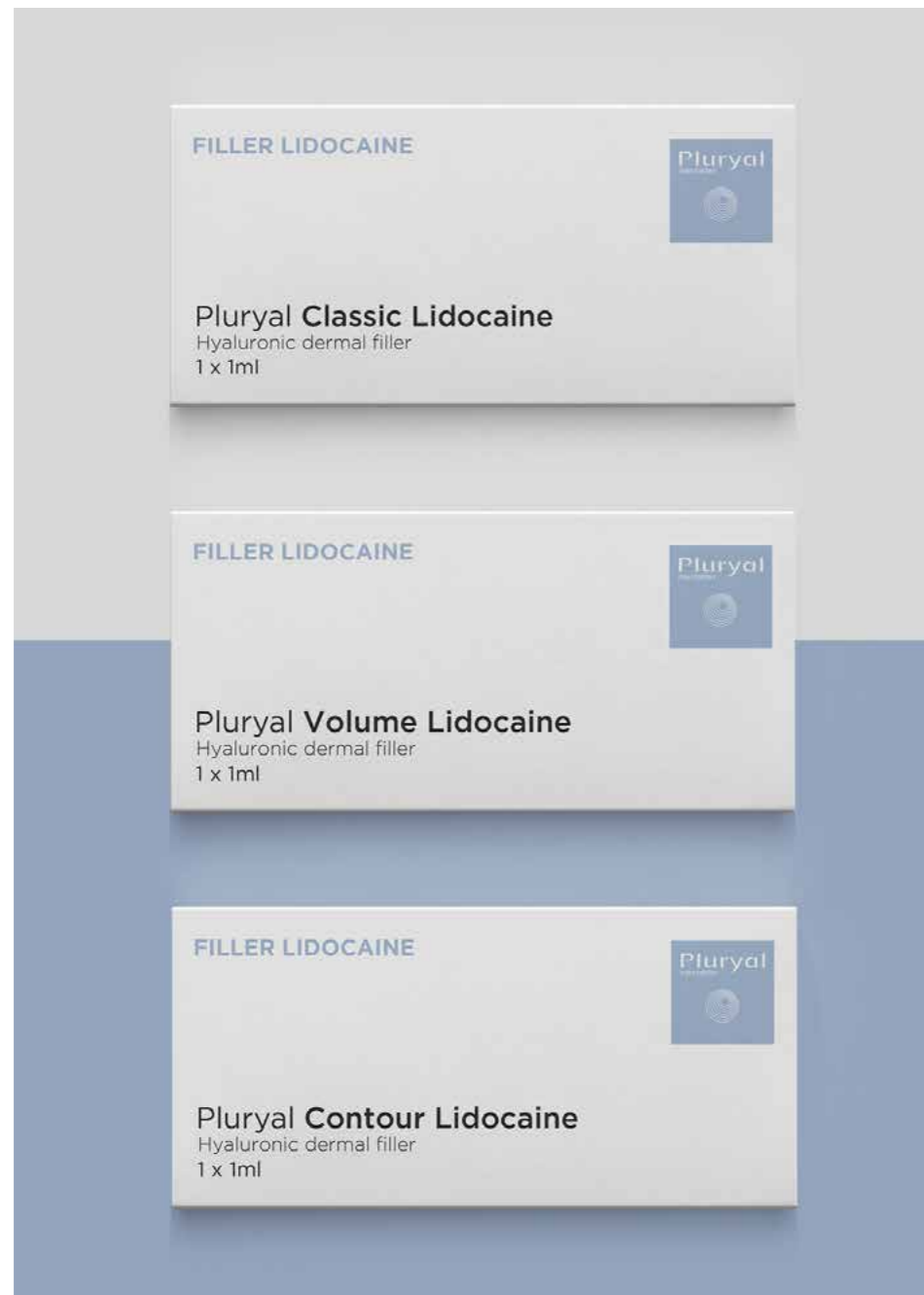
Pluryal Classic Lidocaine, Pluryal Volume Lidocaine and Pluryal Contour Lidocaine are sterile, biodegradable, viscoelastic, clear, transparent, isotonic and homogenized injectable gel implant consisting of cross-linked hyaluronic acid (HA), obtained from *Streptococcus equi* bacteria, formulated to a concentration of 23 to 25 mg/ml in a physiologic buffer supplemented with 0.3% lidocaine hydrochloride.



**BEAUTY IS  
A FEELING**



**PRODUCTS:**  
PLURYAL CLASSIC LIDOCAINE  
PLURYAL VOLUME LIDOCAINE  
PLURYAL CONTOUR LIDOCAINE





## PLURIAL CLASSIC LIDOCAINE

**HA concentration** 2.3% (23mg/ml)  
**Other ingredients** Phosphate buffer, NaCl, 0.3% lidocaine hydrochloride.  
**Cross-linking** BDDE+++ ( $\leq 2$  ppm)  
**Extrusion Force (N)** 10  
**Endotoxins (EU/ml)**  $\leq 2$   
**Molecular weight (Da)** 3 million  
**G' factor (mPa)** 195,000  
**Lidocaine purity:** acc. to ICH Q3B limits  
**Sterilization** Steam sterilized

### Indications

Correct moderate to severe facial wrinkles and folds. Increase lip volume. Address facial lipoatrophy, debilitating scars or morphological asymmetry.

### Clinical data

Pluryal Classic Lidocaine is a versatile and soft filler that can be used in the lips and the dermis.

A published study\* conducted by Grablowitz et al on 60 subjects in Austria has proven the efficacy and safety of the product in treating the nasolabial folds where:

96% of the patients showed an improvement in their NLF severity after 36 weeks and this improvement was maintained for 6 months.

93.3% of the subjects were very satisfied with the treatment outcome.

**Level of injection** Mid to deep dermis.

**Treatment frequency** 9-12 months or as required

\*Grablowitz et al. Safety and efficacy of Princess FILLER Lidocaine in the correction of nasolabial folds. *Clinical, Cosmetic and Investigational Dermatology*, 2019;12, 857 - 864.

## PLURIAL VOLUME LIDOCAINE

**HA concentration** 2.3% (23mg/ml)  
**Other ingredients** Phosphate buffer, NaCl, 0.3% lidocaine hydrochloride.  
**Cross-linking** BDDE++++ ( $\leq 2$  ppm)  
**Extrusion Force (N)** 13  
**Endotoxins (EU/ml)**  $\leq 2$   
**Molecular weight (Da)** 3 million  
**G' factor (mPa)** 400,000  
**Lidocaine purity:** acc. to ICH Q3B limits  
**Sterilization** Steam sterilized

### Indications

Correct deeper wrinkles and folds. Restore volume to the face and to remodel facial contours. Address facial lipoatrophy, debilitating scars or morphological asymmetry.

### Clinical data

A low extrusion force is beneficial for smooth and predictable results: 12N.

Pluryal Volume Lidocaine can be easily injected using a 27G ½" thin wall needle.

A study\* accepted for publication by Kopera et al has proven the efficacy and safety of the Pluryal Volume Lidocaine for the correction of nasolabial folds in 62 subjects:

With 95.1% of subjects showing an improvement of at least 1 grade of the NLF-SRS at 24 weeks after the treatment.

High subject satisfaction  $\geq 93.5\%$ .

High GAIS scores  $\geq 93.5\%$ .

**Level of injection** Deep dermis or subcutis.

**Treatment frequency** 9-12 months or as required

\*Kopera et al. A prospective, open label, multicenter, post market study evaluating Princess® VOLUME Lidocaine for the correction of nasolabial folds. Accepted for publication.

# PLURYAL CONTOUR LIDOCAINE

**HA concentration** 2.5% (25mg/ml)

**Other ingredients** Phosphate buffer, NaCl, 0.3% lidocaine hydrochloride.

**Cross-linking** BDDE+++++ ( $\leq 2$  ppm)

**Extrusion Force (N)** 15

**Endotoxins (EU/ml)**  $\leq 2$

**Molecular weight (Da)** 3 million

**G' factor (mPa)** 650,000

**Lidocaine purity:** acc. to ICH Q3B limits

**Sterilization** Steam sterilized

## Indications

Correct midface volume deficit, for restoring facial volume and shaping contours of the face. Correct HIV-drug related facial lipoatrophy.

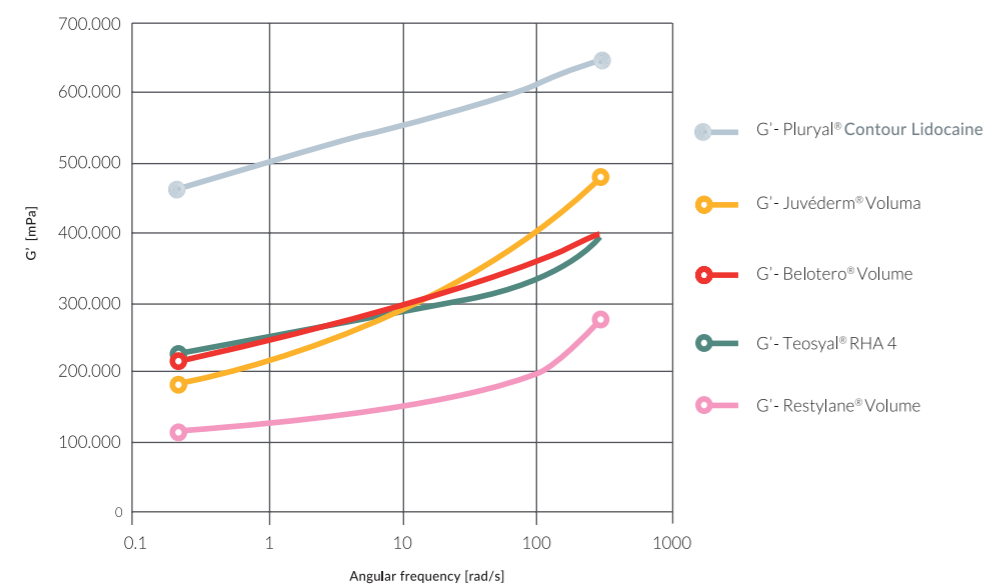
## Clinical data

G' is a rheological parameter which indicates the stiffness of HA gels.

A high G' indicates a high volumising capability for a gel.

Pluryal Contour Lidocaine G' is higher than competitors with equivalent viscosity and indications.

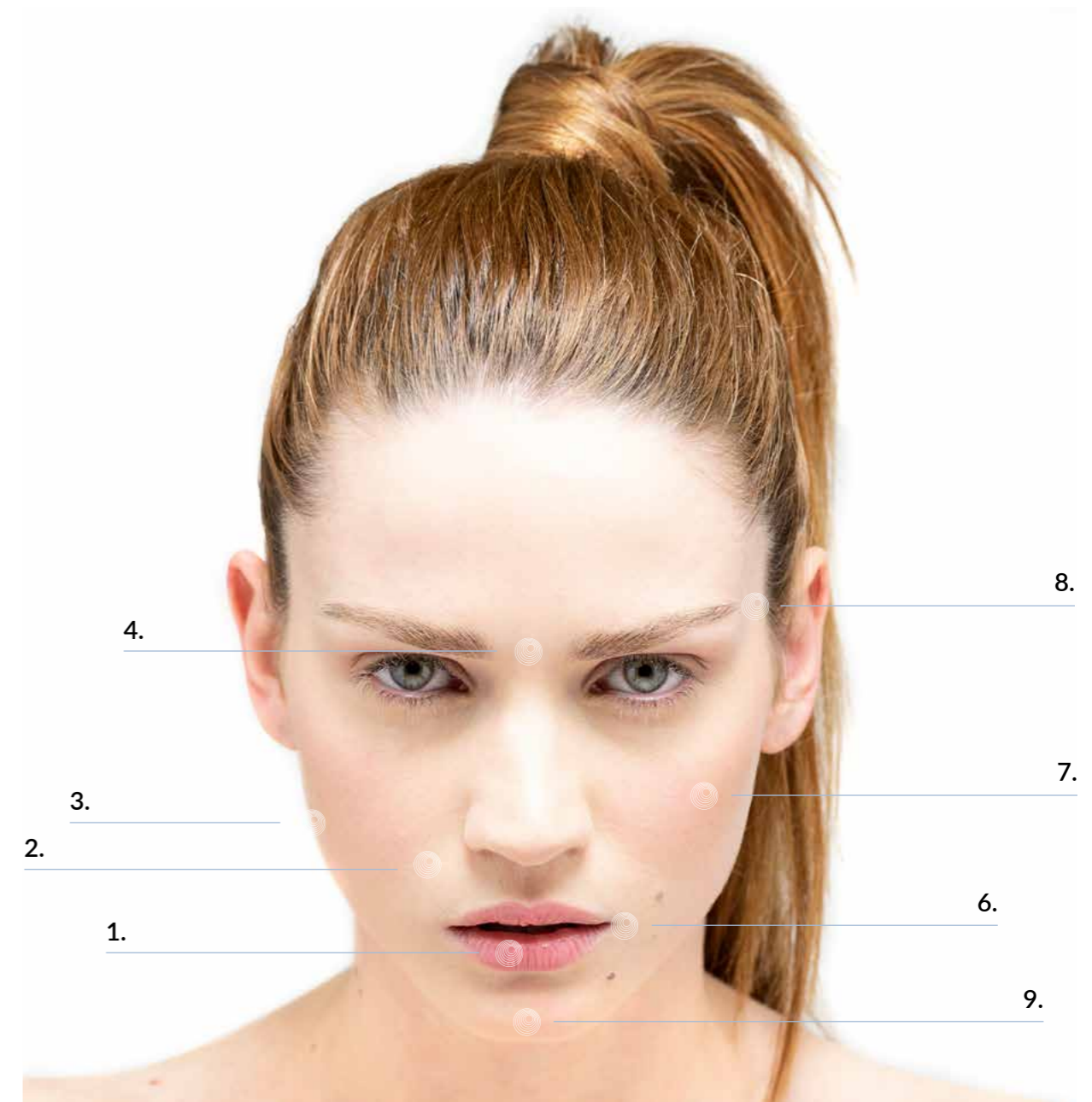
Physicochemical characteristics of selected commercially available fillers



**Level of injection** Deep dermis, subcutaneous or supraperiosteal.

**Treatment frequency** Every 12-15 months or as required

## TARGET AREAS WITH PLURYAL FILLERS LIDOCAINE



1. Lips | 2. Nasolabial folds | 3. Jawline | 4. Glabellar lines | 5. Morphological asymmetry  
6. Bitterness lines | 7. Cheeks | 8. Temples | 9. Chin

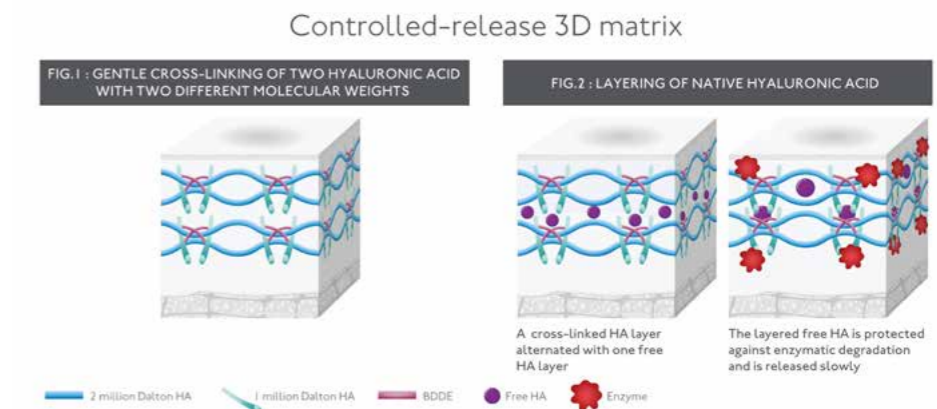
# PLURIAL FILLERS

## BIO

### MATRICIAL 3D TECHNOLOGY

# PLURIAL FILLERS BIO MATRICIAL 3D TECHNOLOGY

MATRICIAL 3D technology consists in using a highly purified hyaluronic acid, combining free and cross-linked HA, concentrated at 25mg/ml. This innovative technology uses a 3D matrix allowing it to have the lowest possible level of residual BDDE (< 0.1ppm).



#### Fig. 1 - Slow crosslinking

Long crosslinking time at low temperature to get a non-calibrated, single-phase gel with optimum viscosity.

2 types of hyaluronic acid of different molecular weights (one is 1 million Da, the other 2 million Da) are crosslinked with BDDE (Butanediol Diglycidyl Ether) to form a solid 3D matrix.

#### Fig. 2 - Layering

Only one crosslinked layer alternated with a free hyaluronan layer (of 500,000 Da molecular Weight). When it is layered in the structure, the latter is protected from the hyaluronidase enzymatic degradation. Then the hyaluronan is gradually released over time.



## PRODUCTS: PLURYAL BIOCLASSIC PLURYAL BIOVOLUME

Pluryal Bioclassic and Pluryal Biovolume consist of sterile, apyrogenic, physiological and resorbable injectable gel implants containing cross-linked hyaluronic acid of non-animal origin, with remarkable viscoelastic properties.



## PLURYAL BIOCLASSIC

**HA concentration** 2.5% (25mg/ml)

**Other ingredients** Phosphate buffer, NaCl

**Cross-linking** BDDE++++ (≤ 0,1 ppm).

**Extrusion Force (N)** 23

**Endotoxins (EU/ml)** < 20

**Molecular weight Active matrix (Da)** 2 million, 1 million

**Molecular weight Embedded Has (Da)** 1million (7%)

**G' factor (mPa)** 100,000

**Sterilization** Steam sterilized

### Indications

Treatment of imperfections that require an enrichment of the facial tissue with temporary volumetric increase through basic tissue growth.

### Clinical data

The "Bio" products offer today the most natural results in the market thanks to the unique features of the MATRICYAL 3D technology and the exclusive monophasic unsized production process:

#### Produced using a gentle cross-linking and a layered hyaluronan:

Gentle cross-linking:

More homogeneity and safety

Better distribution with tissues

Layered hyaluronan protected from enzymatic degradation and released slowly:

More plasticity

Better penetration

More expanding power in the tissue

#### A Triple Action for the most natural results:

Volumetric action: the product restores physiologically the volumes

Re-structuring action: improvement of tissues through a receptorial stimulation

Moisturizing action: re-integrates the natural osmolarity of tissues

**Level of injection** Mid to deep dermis

**Treatment frequency** Every 5-6 months or as required

## PLURIAL BIOVOLUME

**HA concentration** 2.5% (25mg/ml)

**Other ingredients** Phosphate buffer, NaCl.

**Cross-linking** BDDE++++ (≤ 0,1 ppm).

**Extrusion Force (N)** 30

**Endotoxins (EU/ml)** < 20

**Molecular weight Active matrix (Da)** 2 million, 1 million

**Molecular weight Embedded Has (Da)** 1million (5%)

**G' factor (mPa)** 200,000

**Sterilization** Steam sterilized

### Indications

Treatment of imperfections that require an enrichment of the facial tissue with temporary volumetric increase through basic tissue growth.

### Clinical data

The “Bio” products offer today the most natural results in the market thanks to the unique features of the MATRICYAL 3D technology and the exclusive monophasic unsized production process:

#### Produced using a gentle cross-linking and a layered hyaluronan:

Gentle cross-linking:

More homogeneity and safety

Better distribution with tissues

Layered hyaluronan protected from enzymatic degradation and released slowly:

More plasticity

Better penetration

More expanding power in the tissue

#### A Triple Action for the most natural results:

Volumetric action: the product restores physiologically the volumes

Re-structuring action: improvement of tissues through a receptorial stimulation

Moisturizing action: re-integrates the natural osmolarity of tissues

**Level of injection** Superficial subcutaneous

**Treatment frequency** Every 5-6 months or as required

### TARGET AREAS WITH PLURIAL FILLERS BIO



1. Nasolabial folds | 2. Jawline | 3. Glabellar lines | 4. Bitterness lines | 5. Cheeks | 6. Lips  
7. Temples | 8. Chin



**BEAUTY IS  
SELF-CONFIDENCE**



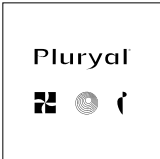
PRODUCT	PLURYAL BOOSTER	PLURYAL CLASSIC	PLURYAL VOLUME	PLURYAL CLASSIC LIDOCAINE	PLURYAL VOLUME LIDOCAINE	PLURYAL CONTOUR LIDOCAINE	PLURYAL BIOCLASSIC	PLURYAL BIOVOLUME
Syringes	1 x 1ml	1 x 1ml	1 x 1ml	1 x 1ml	1 x 1ml	1 x 1ml	1 x 1ml	1 x 1ml
CE marking	CE 0459	CE 0459	CE 0459	CE 0123	CE 0123	CE 0123	CE 0373	CE 0373
Needles	2 x 30 G ½"	2 x 27 G ½"	2 x 27 G ½"	2 x 27 G ½"	2 x 27 G ½"	2 x 27 G ½"	1 x 27 G x 13 mm 1 x 30 G x 13 mm	1 x 23 G x 19mm 1 x cannula 25 G x 38mm
CE marking	CE 0197	CE 0197	CE 0197	CE 0197	CE 0197	CE 0197	CE 0120	CE 0123

Pluryal Injectables are class III medical devices 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.

**TECHNOLOGY &  
INNOVATION  
IN AN ALL-IN-ONE  
HYALURONIC  
ADIC MOLECULE**



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