mesofiller®

advanced dermafillers
by mesoestetic®

Cross-linked HA with three reologic profiles to volumize with versatility, efficacy and clinical safety

mesoestetic®

densiMatrix® technology:

mesofiller® is the range of dermal fillers based on cross-linked hyaluronic acid of non-animal origin obtained by biofermentation, developed using a unique technology which ensures maximum quality, safety* and efficacy in the clinical practice.

Highly-effective cross-linking and purification

> High degree of modification

Several HA concentrations with homogeneous cross-linking, without free HA.

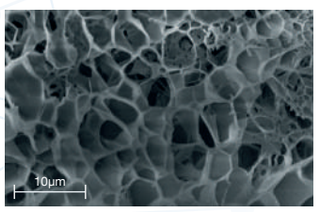
> Strict standardisation[1]

Control of key parameters in order to ensure product quality.

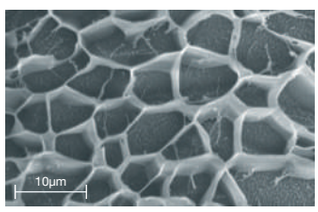
> Maximum safety[2]

Unique purification process that ensures minimal residual value of BDDE <0.05 ppm.[3]

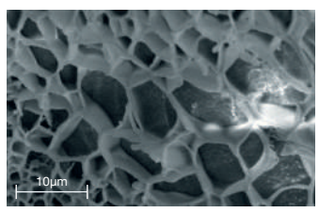
The result is a structure without breakages, evidencing high-quality cross-linking and homogeneity:



mesofiller® periocular



mesofiller® global



mesofiller® intense

Images obtained by electron microscopy (X2000) [4].

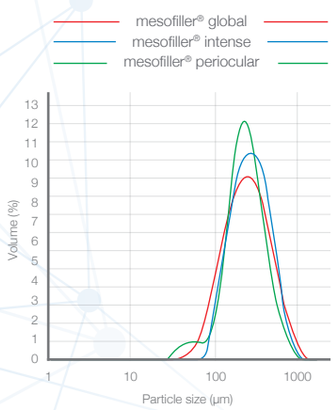
Particle size and homogeneity

> Homogeneous particles

Particle size distribution with very small variability.

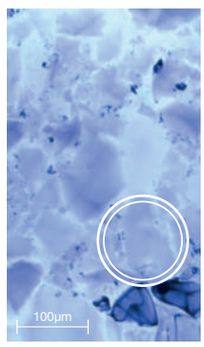
> Particles smaller than needle diameter:

Mean particle size smaller than 400 microns (needle diameter 27G), that prevents deformation during extrusion.[6]

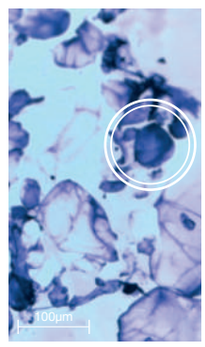


Images obtained by Laser Diffraction (LD) [5].

mesofiller® periocular



mesofiller® global



mesofiller® intense

Images obtained by optical microscopy with methylene blue stain (X4) [7].

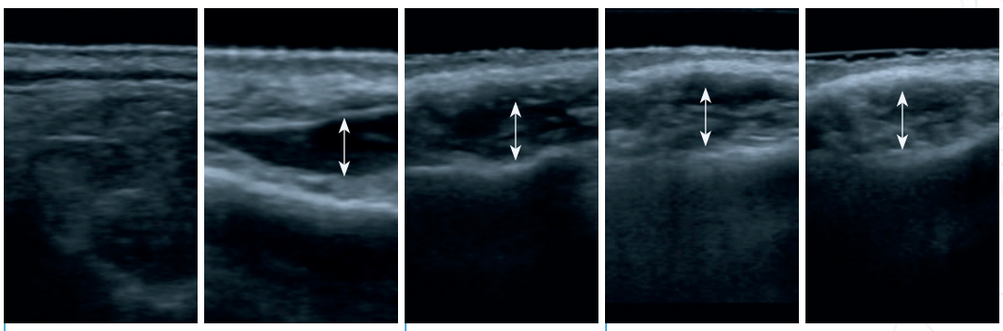
*mesoestetic always ensures excellence in the manufacturing process of its products. mesofiller has been produced using the S.P.P.S. (Sterilisation Permanent Production System). Manufactured following GMP standards and in compliance with ISO 13485 standard. Therefore, mesofiller bears CE 0373 mark, in compliance with the European regulations on medical devices MDD 93/42/CEE.

Durability, safety and improvement of tissue quality

> High durability
High resistance to enzyme hydrolysis with permanence in the tissue for up to 12 months.

> Tissue repair[8]
Full integration that stimulates regeneration pathways, improving tissue quality.

> Absence of nodules
The high bioaffinity and quality of the gel prevents nodular reactions.



Day 0
pre-insertion

Day 0
post-insertion

Day 180
6 months

Day 270
9 months

Day 365
12 months

Day 0
after implantation, full adaptation of the filler can be seen in the dermis.

After 6 months
high integration and durability of the gel are seen.

After 9-12 months
the presence of filler continues, together with the formation of new conjunctive tissue with no nodules or visible residual anechoic areas.

Over 12 months no presence of nodules is seen (anechoic areas).

Images obtained using ultrasound equipment (Toshiba Xario 200 18 MHz multifrequency linear probe).[9]

Characteristics of mesofiller® in the clinical practice:

- High purity in a single stage
- Completely hydrated *"very low swelling factor**"*
- Maximum safety: among the lowest BDDE values on the market
- Low, constant necessary extrusion force
- High uniformity of the gel: lower risk of nodules
- Preservation of viscoelastic properties after tissue implantation
- Durability from 9 to 12 months
- Stimulation of tissue repair mechanisms

**degree of gel swelling: capacity to absorb water under physiological conditions. It is related to the degree of hydration present in the gel preparation.[10]

mesofiller®:

Three rheological profiles to cover multiple indications

Innovation in production technology, together with the full balance of viscoelastic properties, ensures obtaining three gels with differentiated characteristics for maximum versatility in application.

new

mesofiller® periocular

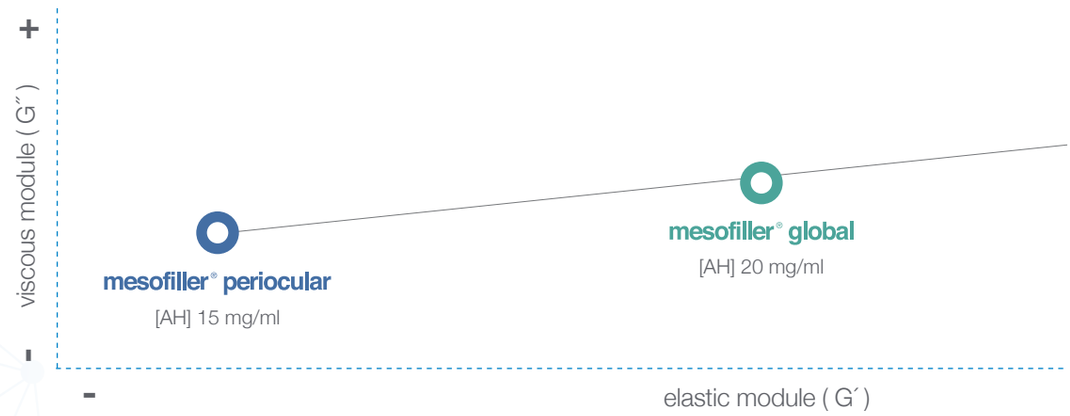
mesofiller® global

Concentration [HA]	15 mg/ml	20 mg/ml
G´ Elastic module	115 Pa	210 Pa
G´´ Viscous module	17 Pa	30 Pa
Swelling factor	1.9 - 2.4 ml/g (very low)***	1.9 - 2.4 ml/g (very low)***

Clinical implications[11]

High G´´
> Lower spreadability, greater tendency to remain localized.
> More precise remodeling capacity.

Low G´´
> Higher spreadability, greater adaptability to tissue ("spread capacity").
> Higher softness, a more ductile filler.



Low G´
> Lower capacity to tissue lifting.
> More suitable for areas which require less resistance to tissue.
> Higher softness, less palpable.

***measured under the same conditions and compared to other market values: *Steven Fagien, M.D. Vince Bertucci, M.D Rheologic and Physicochemical Properties Used to Differentiate Injectable Hyaluronic Acid Filler Products. Plastic and Reconstructive Surgery, HYPERLINK 143 (4), 707e-720e, 2019.*

Application areas:

The three products of the mesofiller® range adapt to the different face areas to correct, highlight and define, achieving a long-lasting, natural outcome.

mesofiller® intense

25 mg/ml

320 Pa

44 Pa

1.9 - 2.4 ml/g
(very low)***

mesofiller® intense
[AH] 25 mg/ml

+

High G´
> Higher capacity to tissue lifting and projection ("lifting capacity").
> Higher resistance to movements of facial musculature and tissue.
> Higher stiffness, more palpable.

- P frontal area
- G glabella
- I eyebrows
- I G temporal fossa
- P periocular area
- I G nose
- G earlobe
- I malar area
- I G cheeks
- I G nasolabial fold
- G perioral area and commissure
- G lip
- I facial oval
- I chin

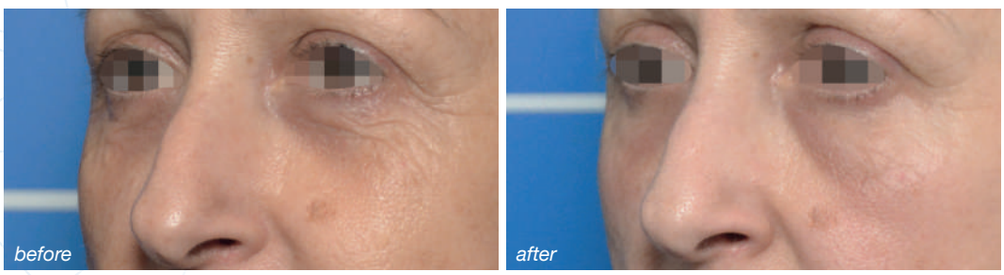
mesofiller® is also suitable for dermal filling in body areas such as décolleté, hands or hypotrophic scars.

P mesofiller® periocular G mesofiller® global I mesofiller® intense

mesofiller®:
clinical cases

Treatment of periocular bags and wrinkles
mesofiller® periocular

Treatments of under-eye bags, lower eyelid drooping and periocular wrinkles
mesofiller® periocular



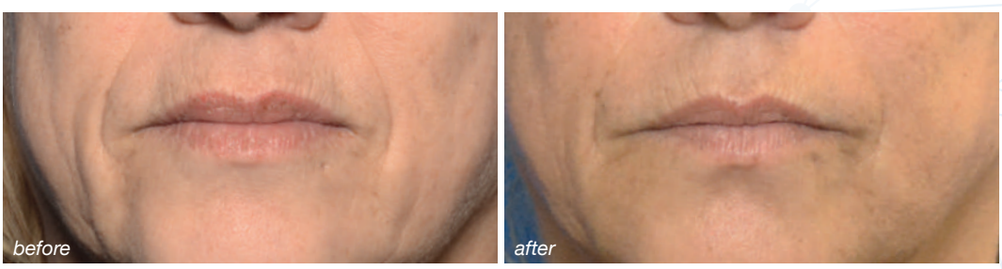
Correction of the nasolabial fold
mesofiller® global y mesofiller® intense

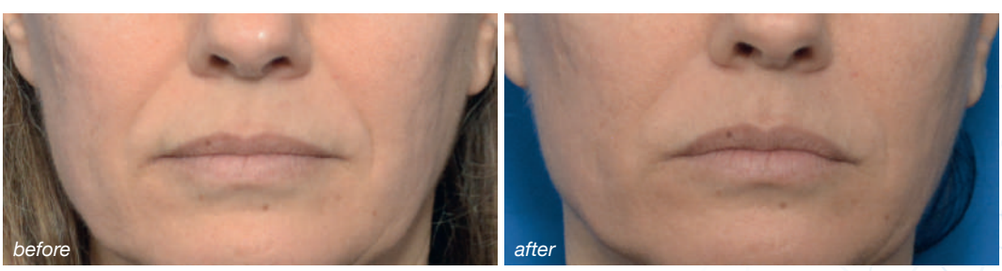
mesofiller®:
clinical cases

Lip volume increase
mesofiller® global

Volume increase in lips and commissure****
mesofiller® global

Filler in cheeks, treatment of wrinkles in nasolabial fold and perioral area
mesofiller® global and mesofiller® intense





Nose shaping
mesofiller® global and mesofiller® intense

*****Images courtesy of Dr. Gabriel Ayala.*

mesofiller®

advanced dermafillers by mesoestetic®

mesofiller® provides **three concentrations of cross-linked HA** for approaching **multiple indications**.

Unique technology **densimatrix** leads to **optimum rheological characteristics** for the clinical practice.

Excellent durability demonstrated using ultrasound tests.

Maximum safety with **minimum residual BDDE levels of <0.05 ppm**.

1) Biao Yanga, Xueping Guoa; Determination of modification degree in BDDE-modified hyaluronicacid hydrogel by SEC/MS, 2015 **2)** Fidalgo J, Deglesne PA, Arroyo R, Sepúlveda L, Ranneva E, Deprez P. Detection of a new reaction by-product in BDDE cross-linked autoclaved hyaluronic acid hydrogels by LC-MS analysis. Med Devices (Auckl). 2018;11:367-376. **3)** Departamento de calidad mesoestetic Pharma Group,s.l análisis por cromatografía de gases (HPLC) 2019 **4)** Departamento de I+D+I mesoestetic Pharma Group,s.l analisis microscopia electrónica mesofiller® 2020 **5)** Departamento de I+D+I mesoestetic Pharma Group,s.l Distribución del tamaño de particula mesofiller® 2020 **6)** Won Lee, MD, PhD, WookOh, MD, 2019 Soft Tissue Filler Properties Can Be Altered by a Small-Diameter Needle **7)** Departamento de I+D+I mesoestetic Pharma Group,s.l analisis microscopia óptica mesofiller® 2020 **8)** La Gatta A, Salzillo, RiHyaluronan-based hydrogels as dermal fillers: The biophysical properties that translate into a "volumetric" effect. 2019;14(6):e0218287. **9)** Departamento medico mesoestetic Pharma Group,s.l. Estudio ecográfico fillers 2020 **10)** Steven Fagien, M.D. Vince Bertucci, M.D Rheologic and Physicochemical Properties Used to Differentiate Injectable Hyaluronic Acid Filler Products. 2019 **11)** Sundaram H, Cassuto D. Biophysical characteristics of hyaluronic acid soft-tissue fillers and their relevance to aesthetic applications. 2013 Oct;132(4 Suppl 2):5S-21S.

mesoestetic®

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