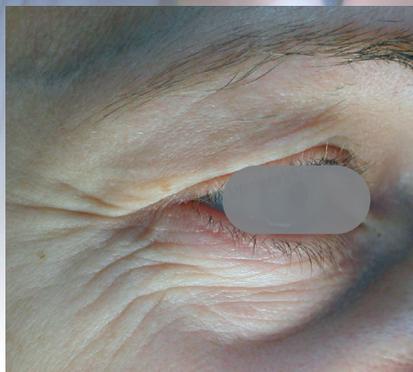
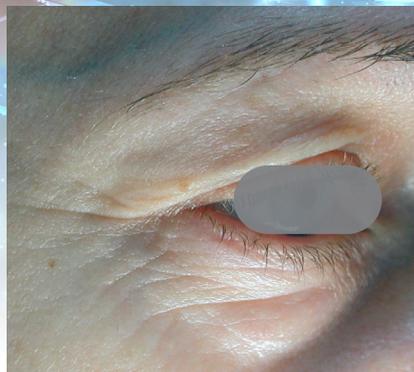


MATRIXYL 3000®

Time has no hold on beauty



Before



After 2 months

FORMULATION Water soluble, oil soluble (Matrixyl 3000® OS)
Check our formulation examples on www.crodabeauty.com

RECOMMENDED USE LEVEL 3%

PATENT FR 2 975 904 – WO 2012/164488 – WO 2005/048968

INCI NAME MATRIXYL 3000® Glycerin – Aqua (Water) – Butylene Glycol – Carbomer – Polysorbate 20 – Palmitoyl Tripeptide-1 – Palmitoyl Tetrapeptide-7

MATRIXYL 3000® Free Glycerin – Aqua (Water) – Butylene Glycol – Carbomer – Coco Glucoside – Palmitoyl Tripeptide-1 – Palmitoyl Tetrapeptide-7

MATRIXYL 3000® OS C12-15 Alkyl Benzoate – Sorbitan Laurate – C18-36 Acid Glycol Ester – C18-36 Acid Triglyceride – Palmitoyl Tripeptide-1 – Palmitoyl Tetrapeptide-7

MATRIXYL 3000® Glyx Glycerin – Aqua (Water) – Xanthan Gum – Palmitoyl Tripeptide-1 – Palmitoyl Tetrapeptide-7

FUNCTION Anti-wrinkle.

DEFINITION Association of 2 palmitoylated matrikines: Pal-Gly-His-Lys and Pal-Gly-Gln-Pro-Arg.

BENEFITS Matrixyl 3000® supports activation of the cutaneous repair process, and in particular in the fragile and UV-damage prone papillary dermis. Matrixyl 3000® promotes wrinkle smoothing and improves tone and elasticity.

CHARACTERISTICS Matrikines® are messenger peptides capable of regulating cell activities by interacting with their specific receptors. They activate specific genes involved in the process of extracellular matrix renewal and cell proliferation. These mechanisms become weaker with age.

POINT OF INTEREST Matrixyl 3000® regulates progerin expression, a senescence marker known to accumulate with age, whereas it maintains its normal form lamin A.

APPLICATIONS Anti-wrinkle products.



FACE
MAKE-UP



2-0024-06-100-04

CRODA
Beauty Actives

www.crodabeauty.com
sederma@ sederma.fr
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CLAIM SUBSTANTIATION

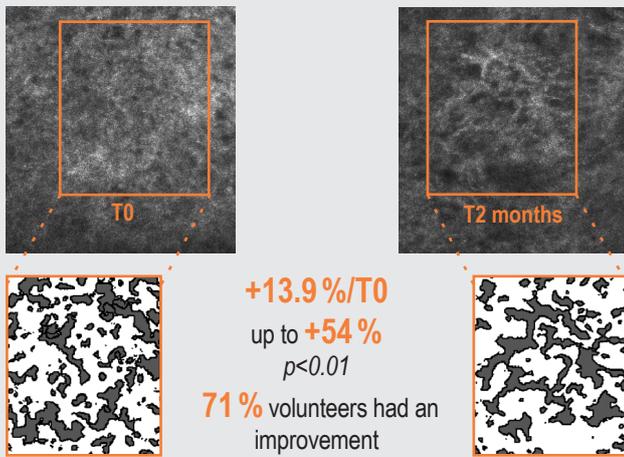
COUNTERACTS CUTANEOUS DAMAGE OF AGEING
BY **2** COMPLEMENTARY APPROACHES

1 PHOTO-INDUCED AGEING PROTECTION

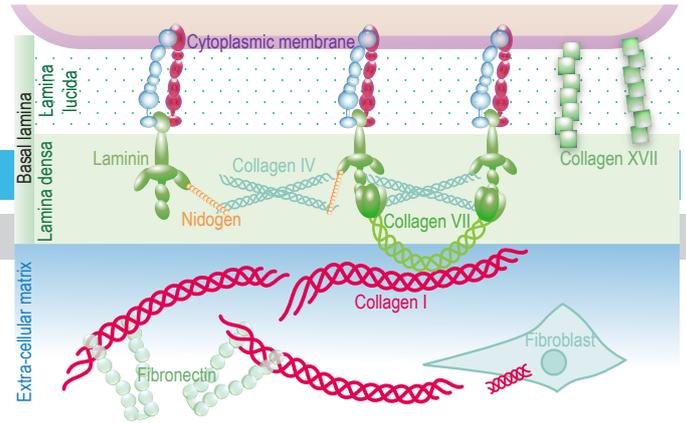
in vitro

IMPROVEMENT OF THE DERMAL FIBRE ORGANISATION

Measurements of fibre defragmentation by confocal laser microscopy (Vivascope®) on the face, next to the external eye corner.

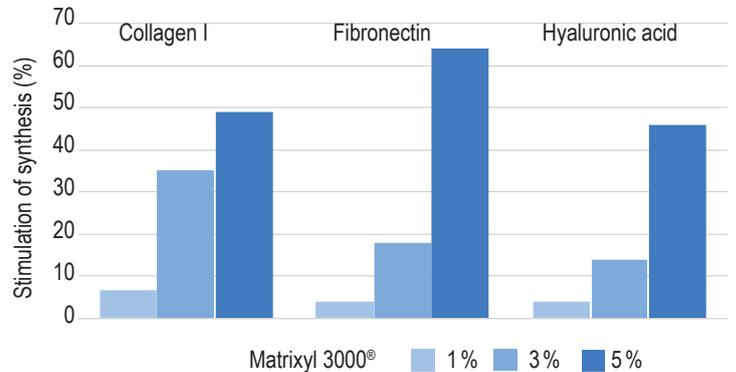


Matrixyl 3000® helps reduce fibre fragmentation and notably supports reconstruction of the papillary dermal fibre network.



SYNTHESIS OF MATRIX MACROMOLECULES

Study of the stimulation of extracellular matrix components synthesis by fibroblasts incubated for 72 hours with Matrixyl 3000® (1, 3, 5%).



Matrixyl 3000® stimulates synthesis of extracellular matrix molecules.

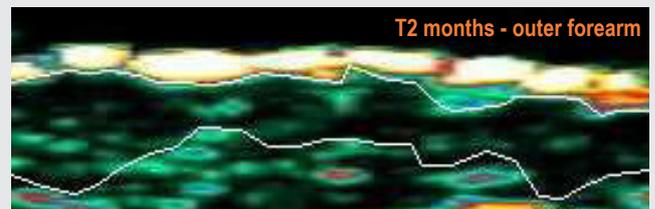
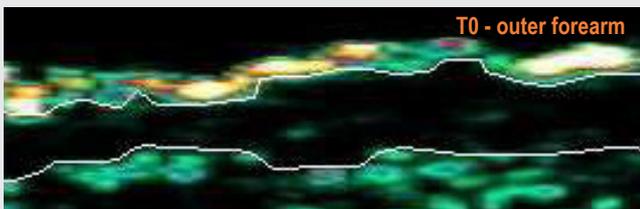
in vivo CLINICAL STUDIES

ANALYSIS OF THE Subepidermal Low Echogenicity Band



Twice daily application of a cream containing **3%** of Matrixyl 3000® for 2 months to one half of the face and the forearm (inner and UV-exposed outer forearm) against placebo.

After 2 months	Inner forearm	Outer forearm
THICKNESS	-9.8%/T0 up to -23%, $p < 0.01$ 93% volunteers	-9.8%/T0 up to -33%, $p < 0.01$ 86% volunteers
	-11%/placebo, $p < 0.01$	-14.4%/placebo, $p < 0.01$
DENSITY	+11.4%/T0 up to +44%, $p < 0.01$ 68% volunteers	+11.5%/T0 up to +45%, $p < 0.01$ 82% volunteers
	+15.2%/placebo, $p < 0.01$	+15.1%/placebo, $p < 0.01$
AGE GAIN	-3.8 years	-5.5 years



Significant improvement in SLEB characteristics in just one month (thickness: -5.5%/placebo; density: +7.8%/placebo, on the inner arm) and confirmed after two months. The ageing process is slowed down by 1.8 years in just one month.

2 SLOW DOWN OF CHRONOLOGICAL AGEING

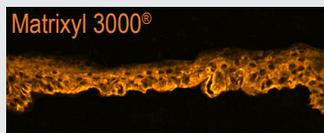
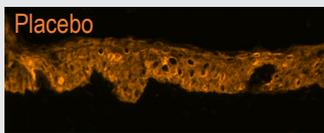
in vitro

REGULATION OF SENESCENCE MARKERS

Study on senescent fibroblasts with Matrixyl 3000® eq. 5 %
SA β-galactosidase (fluorescence method)..... **-56 %**, $p < 0.01$
Progerin (RNA expression) **-27 %**, $p < 0.05$
Lamin A (RNA expression) **+4 %**, ns

MATRIXYL 3000® regulates expression of well-known (SA β-galactosidase) and recently discovered (progerin) markers of senescence, while preserving expression of its normal form: lamin A.

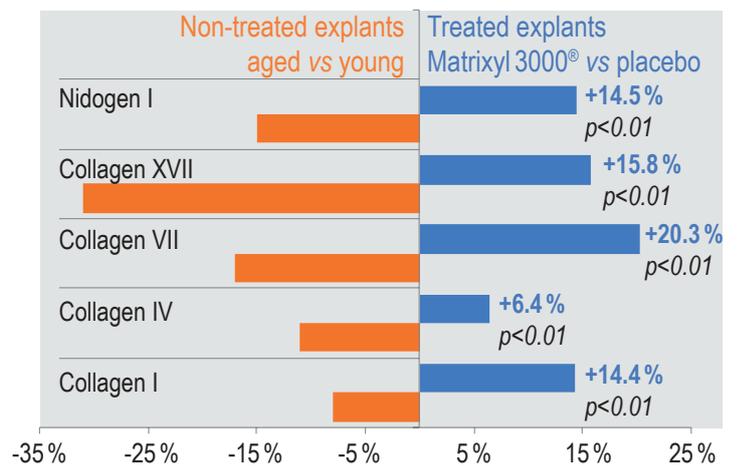
Collagen VII



ex vivo

REJUVENATE THE DERMAL STRUCTURE

Quantification of constituent, anchorage and cohesion proteins of the dermis and dermal-epidermal junction on skin explants (n=10, from 30 to 66 years).



With Matrixyl 3000®, ageing skin tends to behave like young skin.

ANTI-WRINKLE EFFICACY, SKIN TONE AND ELASTICITY

in vivo

CLINICAL STUDIES

23

mean age
56.1

Twice daily application of a cream containing **3%** (women) or **4%** (men) Matrixyl 3000® for 2 months on one half-face against placebo.

mean age
54.5

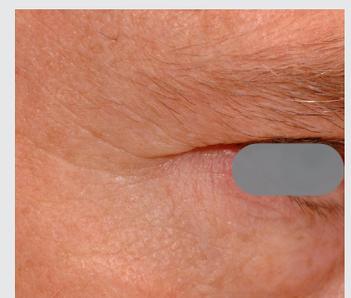
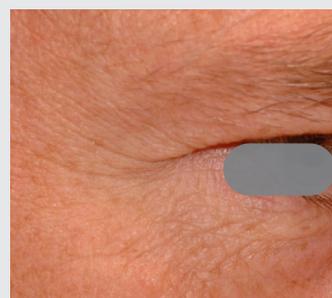
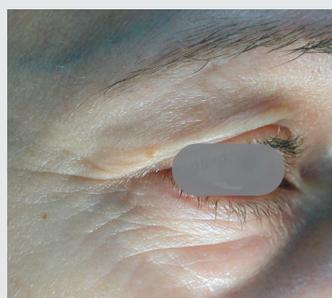
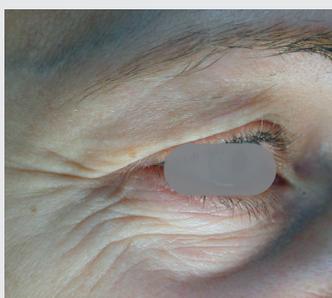
39



Matrixyl 3000®	Placebo	Compared to T0 (%)	Matrixyl 3000®	Placebo
-39.4**	+4.3 ns	Surface occupied by deep wrinkles	-29.4**	+5.1 ns
-32.9**	-9.9 ns	Main wrinkle density	-30.4**	-19.7 ns
-19.9**	-3.2 ns	Main wrinkle average depth	-17.1**	-2.7 ns
-23.3**	-8.7*	Main wrinkle average volume	-10.2**	+0.2 ns
-16.0**	-1.4 ns	Roughness	-8.4**	-2.2 ns
-16.2**	+4.2 ns	Lifting effect (Complexity)	-	-
+5.5*	+4.1 ns	Elasticity	-	-
+15.5**	+6.5 ns	Skin tone	-	-
-	-	Wrinkle spread (angle)	+5.4*	-0.7 ns



ns: non significant
 *significant / T0 ($p < 0.05$)
 **significant / T0 ($p < 0.01$)



T0

T2 months

T0

T2 months

Repairing effect of Matrixyl 3000® improves visible skin appearance by decreasing wrinkles and promoting tone and elasticity.

This cream with **Matrixyl 3000®**, **Prodizia®**, **Idealift®** and **Dermaxyl®** is inspired by Luxury Brand skin care products. **Idealift®** stimulates elastin synthesis and improves resistance to gravity while **Matrixyl 3000®** will visibly reduce wrinkles and then repairs the age-related skin damage in combination with **Dermaxyl®** which stimulates cell communication. **Prodizia®** fights the cutaneous signs of fatigue caused by glycation and glycooxidation. This rich and comfortable texture features **Brij™ S2**, **Crodafos™ MCA** and **Arlacel™ 170** which allow stabilisation and the association between **Crodamol™ GTEH** and **Crodamol™ GTCC**, for a soft and silky finish permits to be rapidly absorbs. This complete cream protects, smoothes and firms the skin to offer a youthful glow.

Ingredient	Functionality	% w/w
Part A		
Water Deionised (Aqua)	-	To 100
Potassium Sorbate	Preservative	0.10
Part B		
Glycerin	Humectant	5.00
Xanthan Gum	Rheology modifier	0.15
Hydroxyethylcellulose	Rheology modifier	0.15
Part C		
Squalane	Emollient	5.00
Crodamol™ GTCC (Caprylic/Capric Triglyceride) ¹	Emollient	3.00
Crodafos™ MCA (Cetyl Phosphate) ¹	Emulsifier	2.00
Crodamol™ GTEH (Triethylhexanoin) ¹	Emollient	2.00
Dimethicone (100cps)	Emollient	2.00
Cyclopentasiloxane	Emollient	2.00
Dermaxyl® ²	Anti-wrinkle active	2.00
Arlacel™ 170 (Glyceryl Stearate (and) PEG-100 Stearate) ¹	Emulsifier	1.50
Stearic Acid	Emulsifier	1.00
Brij™ S2 (Steareth-2) ¹	Emulsifier	0.50

Ingredient	Functionality	% w/w
Part D		
Idealift® ²	Lifting active	4.00
Part E		
Phenoxyethanol	Preservative	0.80
Part F		
Water Deionised (Aqua)	-	7.00
Sodium Hydroxide 30 %	pH Adjuster	0.70
Part G		
Matrixyl 3000® ²	Anti-ageing active	3.00
Part H		
Prodizia® ²	Anti-fatigue active	2.00
Part I		
Fragrance ³	Fragrance	0.10

PROCEDURE Weigh and heat Part A to 85°C in bain-marie. Weigh and heat Part C to 85°C in bain-marie. Weigh Part B and mix well. Add Part B into Part A with normal rotor stator stirring. Weigh Part D and add to Part C. Mix well. Add Part C+D into Part A+B with rotor stator stirring. Add Part E extemporaneously and mix well. Add Part F with rotor stator stirring. Add Part G, mix well. Add Part H below 35°C, mix well.

Suppliers: ¹Croda ²Sederma ³Expressions Parfumées

This cream is designed as a global treatment to take care of men's skin. **Matrixyl 3000® Free** contains matrikines which are messengers of cutaneous restructuring and repair. They interact with specific receptors to activate certain genes involved in the process of extracellular matrix renewal and cell proliferation. **Evermat™** reduces pore size and shine. **Crodafos™ MCK** is used to stabilise the combination of substantive emollients **Crodamol™ IPP** and **Crodamol™ OSU**. This cream will refine skin texture and provides a complete rejuvenating effect.

Ingredient	Functionality	% w/w
Part A		
Water Deionised (Aqua)	-	To 100
Carbomer	Rheology modifier	0.10
Part B		
Glycerin	Humectant	7.00
Xanthan Gum	Rheology modifier	0.50
Part C		
Crodafos™ MCK (Potassium Cetyl Phosphate) ¹	W/O emulsifier	2.00
Part D		
Stearic Acid	Bodying agent	2.50
Dimethicone 5 cs	Silicone	7.00
Crodamol™ IPP (Isopropyl Palmitate) ¹	Emollient	5.00
Crodamol™ OSU (Diethylhexyl Succinate) ¹	Emollient	5.00
Part E		
Phenoxyethanol	Preservative	qs

Suppliers: ¹Croda ²Sederma ³Fragrance resources

Ingredient	Functionality	% w/w
Part F		
Water Deionised (Aqua)	-	4.00
Sodium Hydroxide 30 %	pH Adjuster	0.30
Part G		
Evermat™ ²	Pore refining active	3.00
Part H		
Matrixyl 3000® Free ²	Anti-ageing active	4.00
Part I		
Fragrance (Draktiv) ⁴	Fragrance	0.50

PROCEDURE Weigh Part A and sprinkle Carbomer into the water with helix stirring (s=500 rpm) for 30 minutes. Weigh and mix Part B. Add Part B to Part A with helix stirring (s=500 rpm) for 30 minutes. Heat part A+B to 75°C in bain-marie. Weigh Part C. Pour Part C into Part A+B with rotor stator stirring (s=500 rpm), heat to 75°C in bain-marie and mix well. Weigh Part D and heat to 75°C in bain-marie. Pour Part D into Part A+B+C with rapid rotor stator stirring. Stop heating and add Part E with normal rotor stator stirring, stir well. Then add Part F, stir well. Add Part G and Part H, mix well. Add Part I at around 35°C.