

vanistryl®



**A NOVEL COMPLEX TO GET RID OF
STRETCH MARKS ONCE AND FOR ALL**



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BODY CARE

Body Cult



Hackneyed concepts like body-firming, anti-cellulite, moisturising and exfoliating products keep their potential growth in the skin care market.



Nowadays, it is not only moisturising but preventing, correcting and repairing the signs of aging and skin alterations in the body.



Body care category (value size):

	2005	2008 (estimation)	2010 (estimation)
BODY CARE SIZE (€ M)	740.2	968.9	1,148.0
% BODY CARE IN TOTAL SKIN CARE MARKET	22.7%	25.4%	27.1%

Source: Euromonitor International



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STRETCH MARKS (I)



Striae distensae, or stretch marks, are associated with continuous and progressive stretching of the skin. They are represented by skin distension due to enlargement of the underlying dermal tissue.



Striae are more visible in breasts, abdomen, back, buttocks and thighs.



Properties such as firming and restructuring the skin are necessary in every anti-stretch mark product.



The more time that passes between the apparition of stretch marks and use of a cream, the less likely the treatment is to be effective.



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STRETCH MARKS (II)

They not only occur in pregnancy...

Adults

- ✓ During rapid weight gain or loss.

Teenagers

- ✓ Stretch marks occur in adolescent growth spurts.
- ✓ Teenage boys tend to get stretch marks on the shoulders, buttocks and thighs, and girls on the breasts, hips and thighs.

Teenagers have now more disposable income. The beauty market for girls between 8 and 12 is worth estimated \$500 m and includes products as adult seeming as firming-cellulite creams. (NDP Group, 2008)

STRETCH MARKS

Men

- ✓ Men are just as likely to get stretch marks as women.
- ✓ Stretch marks are very common in athletes training bulks up muscle (in weight-lifting and steroid use). (Men's Health, 2007)



- o Striae are characterised by linear, smooth bands of atrophic-appearing skin.
- o Their dimensions vary between 2 and 10 mm in width and some cm in length.



STRETCH MARKS' CLINICAL STAGES

Recent striae



Older lesions

Raised pink/purple smooth linear lesions without significant depression of the skin.

They tend to become white, crumpled, and atrophic giving the sensation of vacuity at palpation. They are hairless and no sweat or sebum excretion seems present.





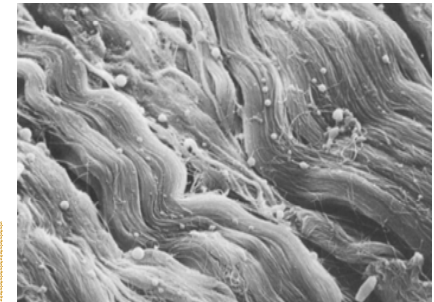
- o Striae distensae appear correlated with strong alteration of connective tissue structure:

EPIDERMIS

- thinner and atrophic

DERMIS

- Collagen and elastin are significantly reduced
- Collagen bundles are thin, short and parallel to the epidermis
- Collagen and elastic fibres are thin, stretched out, fragmented and widely separated from each other by an abundant ground substance



Normal skin: Collagen bundles are thick, parallel and waved



Striae: Collagen bundles are separated into isolated fibrils¹

¹Scanning electron microscopy. Pieraggi MT, Julian M, Delmas M, Bouissou H. *Virchows Arch A Pathol Anat Histol.* 396:279-289, 1982.



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STRETCH MARK TREATMENT

PREVENTION

- Maintenance and improvement of the dermal structure, so that the dermis is in good condition and the skin's ability to stretch is increased.

TREATMENT

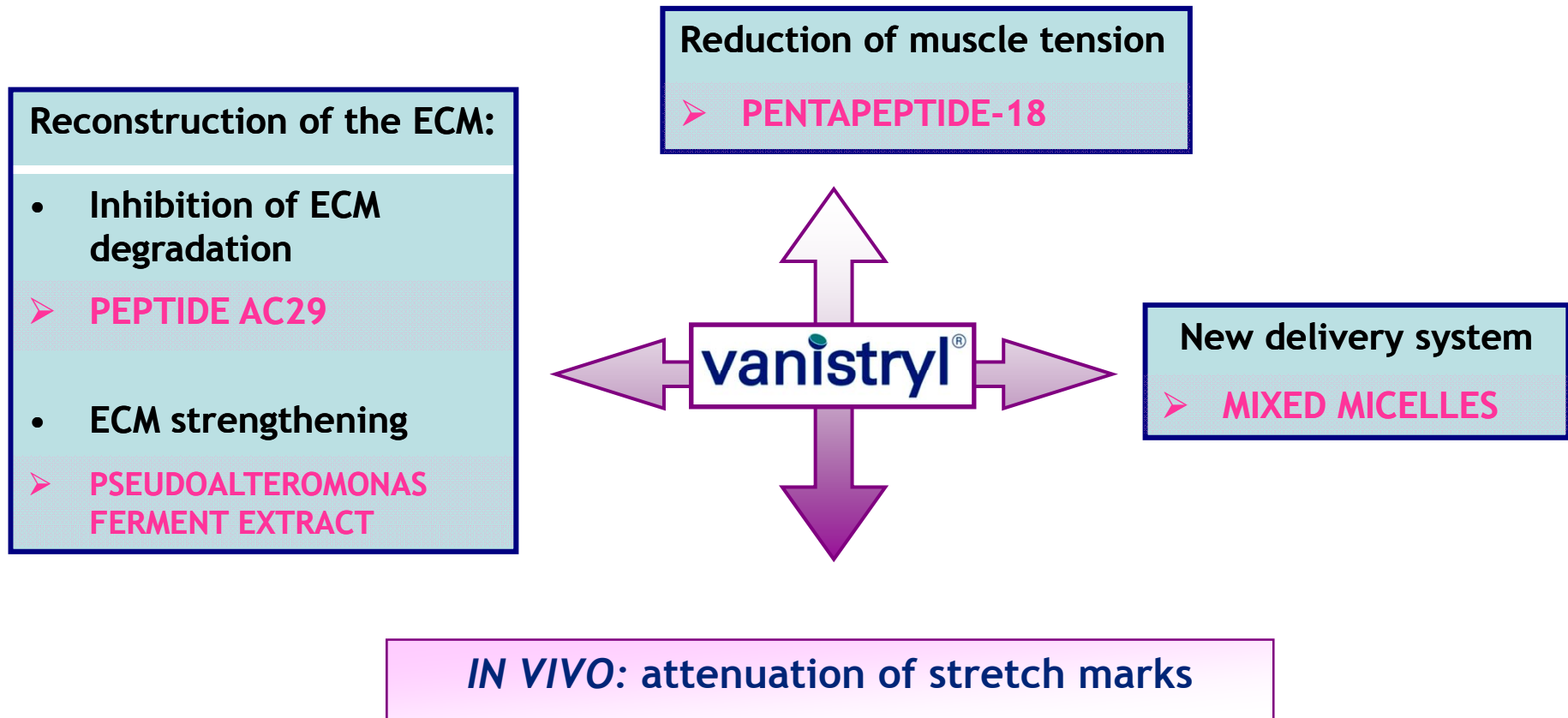
- Reduction of colour in recent stretch marks, regeneration of the epidermis, reconstruction of the connective tissue by protecting and boosting dermal proteins.



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VANISTRYL®

VANISTRYL® contains a combination of ingredients able to **TREAT** and **PREVENT** stretch marks





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VANISTRYL®: ACTIVITY IN THE ECM (I)

Inhibition of ECM degradation

+

ECM strengthening

healing properties

+

Collagen and elastin boosting

Regeneration of the epidermis

+

Reconstruction of the dermal components

Recovering of skin surface

+

Gives integrity and elasticity to the skin



1. INHIBITION OF ECM DEGRADATION (I)

Increased proteolysis in stretch marks



- Matrix metalloproteinases (MMPs) are collectively capable of degrading essentially all extracellular matrix components.

PEPTIDE AC29 is a new synthetic tetrapeptide that inhibits selectively human MMPs

 *In vitro* efficacy measured



- ✓ Prevents the degradation of the extracellular matrix components that get disrupted in the formation of stretch marks.
- ✓ Prevents the formation of new stretch marks by giving more strength to skin to withstand distension.



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VANISTRYL®: ACTIVITY IN THE ECM (IV)

2. ECM STRENGTHENING (I)

Striae result from the loosening of cohesion between the fibrous networks in the dermis



Reduction in the amount of collagen and elastic fibres.

Pseudoalteromonas Ferment Extract helps to restructure the skin, boosting ECM components production



In vitro efficacy measured



- ✓ Increases fibroblasts adhesion (125% in 5 hours) and keratinocytes growth (36% after 48 hours).
- ✓ Increases dermal protein synthesis: collagen type I raised to 128%, IV to 81% and elastin to 31%, in 15 days.
- ✓ Induces an enhanced wound healing effect on keratinocytes.



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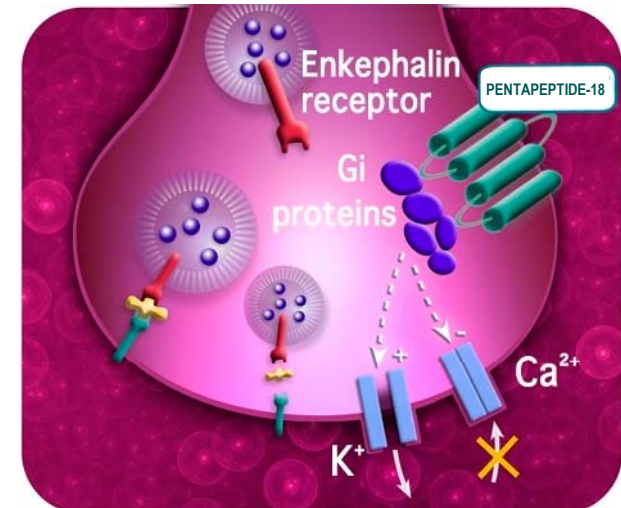
VANISTRYL®: REDUCTION OF MUSCLE TENSION

New mechanism

Pentapeptide-18 provides a modulation of acetylcholine release from neuron cell cultures by preventing the entry of Ca^{2+} into the neuron:



- ✓ This process attenuates muscle contraction and the muscle tissue surrounding striae is relaxed.
- ✓ It reduces tension in the dermis and permits the healing of stretch marks.

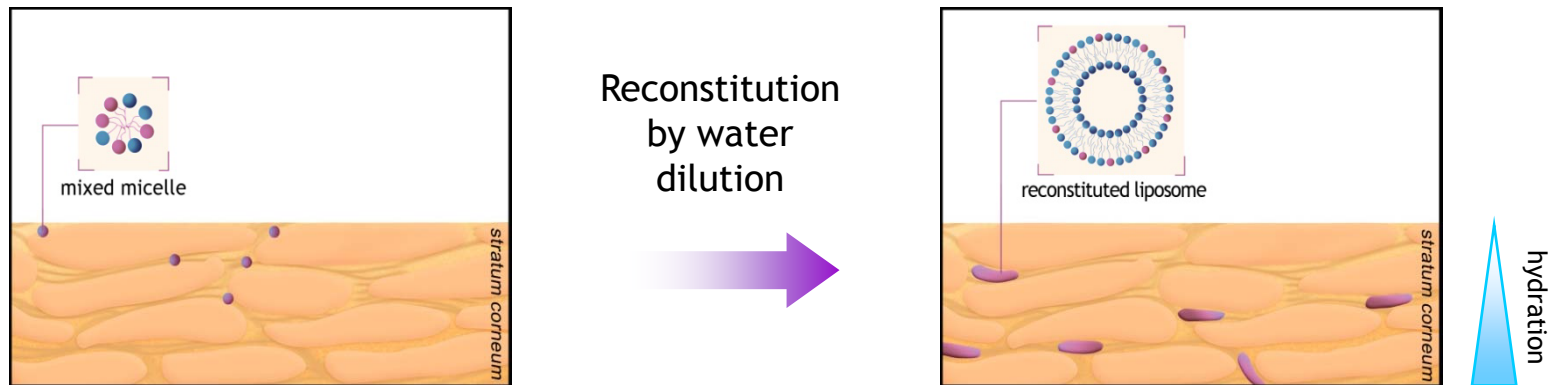




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VANISTRYL®: NEW LIPOTEC DELIVERY SYSTEM

Mixed micelles are small size aggregates with a spherical-like shape composed of a mixture of non-ionic surfactants and phospholipids:



- ✓ They penetrate through the stratum corneum due to their small size.
- ✓ Then, they are reconstituted into liposomes of a bigger size by water dilution.
- ✓ Enhanced penetration and efficacy.



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IN VIVO EFFICACY (I)

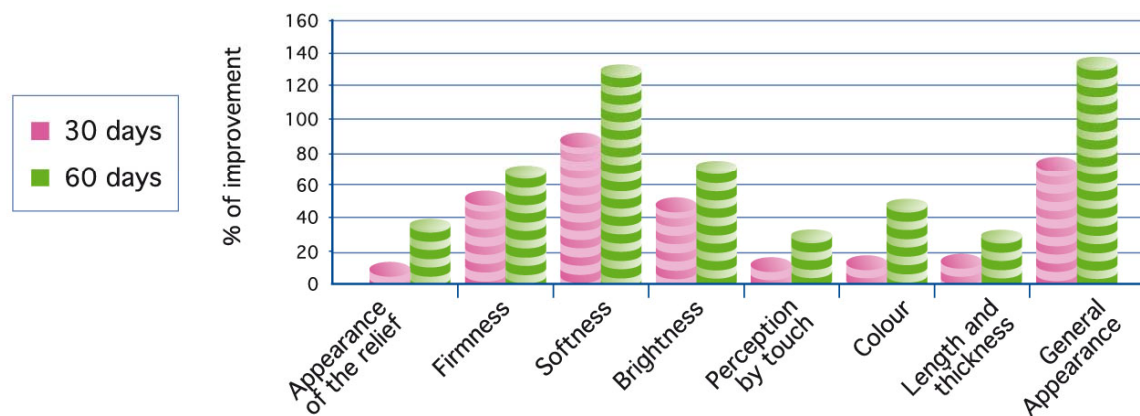
Reduction of stretch marks

- o 12 female volunteers with clinically assessed recent stretch marks.

- o A cream containing 5% Vanistryl® was applied twice daily and a placebo cream on another area of stretch marks, for 60 days.



• A dermatologist scored 1 (worst) to 5 (best), after 30 and 60 days of application.



Clinical evaluation

All parameters were improved by 100% of the volunteers after 60 days

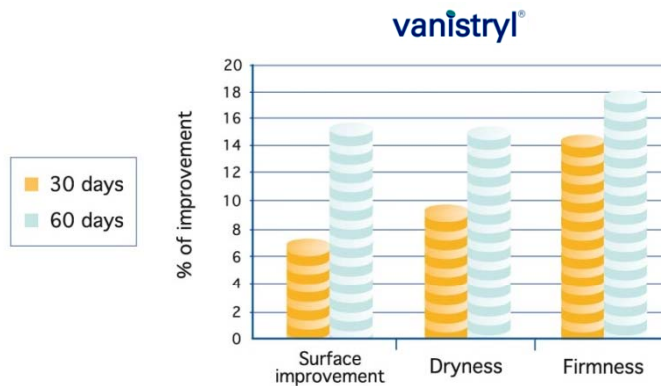


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IN VIVO EFFICACY (II)

Reduction of stretch marks

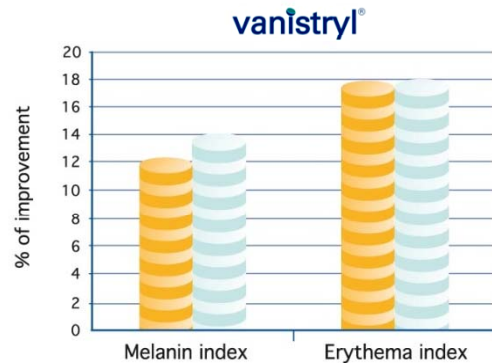
Instrumental assessments



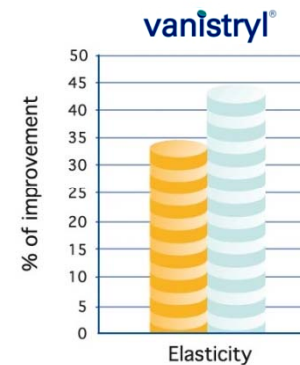
Instrumental assessments:

- Skin Surface: the images were captured by means of the Visioscan VC 98.
- Colour: melanin and erythema index were measured with the Mexameter MX18.
- Skin elasticity: with the Soft Mini Three instrument.

Skin surface, dryness and firmness improved significantly



18% Decrease of erythema



44% Increase in skin elasticity

After 60 days of treatment.

The colour of the stretch marks improved in 75% of the volunteers.



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IN VIVO EFFICACY (III)

Reduction of stretch marks

Visible reduction of stretch marks

Day 0

Day 60



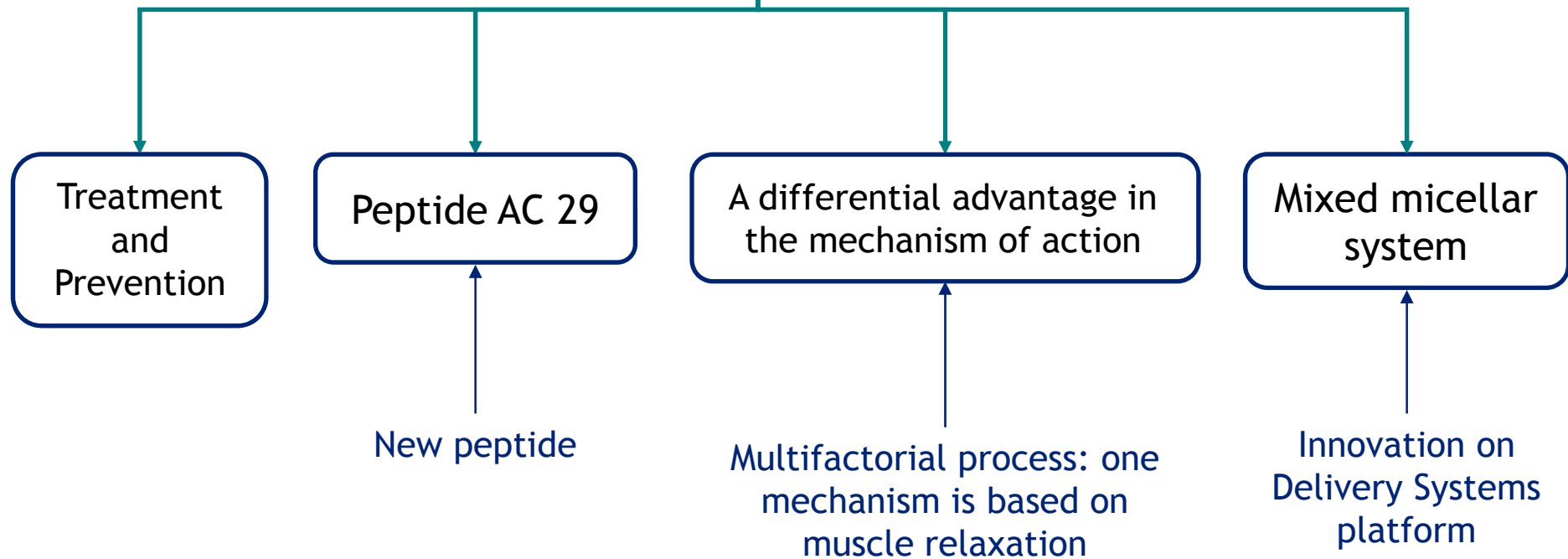


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COSMETIC BENEFITS

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Combination of actives
with a new peptide
in a new delivery system





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TECHNICAL INFORMATION



DESCRIPTION

A combination of several active ingredients incorporated in a new Lipotec's delivery system that acts by different mechanisms to treat stretch marks already formed and also to prevent the appearance of new ones.

APPEARANCE

Translucent gel containing

1.87% Pseudoalteromonas Ferment Extract

0.025% Acetyl Tripeptide-30 Citrulline

0.01% Pentapeptide-18

INCI

Water (Aqua), Caprylyl/Capryl Glucoside, Lecithin, Glycerin, Pseudoalteromonas Ferment Extract, Acetyl Tripeptide-30 Citrulline, Pentapeptide-18, Xanthan Gum, Caprylyl Glycol.

Paraben free.

PROPERTIES

It tackles effectively the different mechanisms involved in the stretch marks formation: protects connective tissue from degradation, helps to reconstruct ECM components, provides a wound healing effect and reduces skin tension. The overall effect is translated into a visible attenuation of stretch marks *in vivo*.

APPLICATIONS

Vanistryl® can be incorporated in cosmetic formulations where attenuation of stretch marks is desired. It is also suitable for preventive treatments.

DOSAGE 5%



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FORMULATION

CREAM
CONTAINING 5%
VANISTRYL™

SKIN
CARE

Phase	Ingredients	% by weight
A	WATER (AQUA)	qsp 100
	PHENONIP (from Clariant UK Ltd)	0.85
	IMIDAZOLIDINYL UREA	0.3
	PROPYLENE GLYCOL	5
B	GLYCERYL STEARATE, PEG-100 STEARATE	6
	CETYL ALCOHOL	0.7
	STEARIC ACID, PALMITIC ACID	1.8
	CAPRYLIC/CAPRIC TRIGLYCERIDE	8
	ISOHEXADECANE	3
C	VANISTRYL™ (CODE PD110)	5
D	ACRYLATES/C10-30 ALKYL ACRYLATE CROSSPOLYMER	0.3
E	TRIETHANOLAMINE	0.12

PROCEDURE

In an appropriate vessel weigh phase B and heat at 70°C until complete dissolution.
In another vessel dissolve phase A and heat also at 70°C. Once both vessels are at 70°C, pour slowly phase B into A under stirring. Let cool down to 40°C and add phase C while stirring. Once homogenised add phase D until complete dissolution and adjust pH with phase E.

PROPERTIES

pH = 6.0 – 7.0
Viscosity = 10000 – 50000 cps (6/20)

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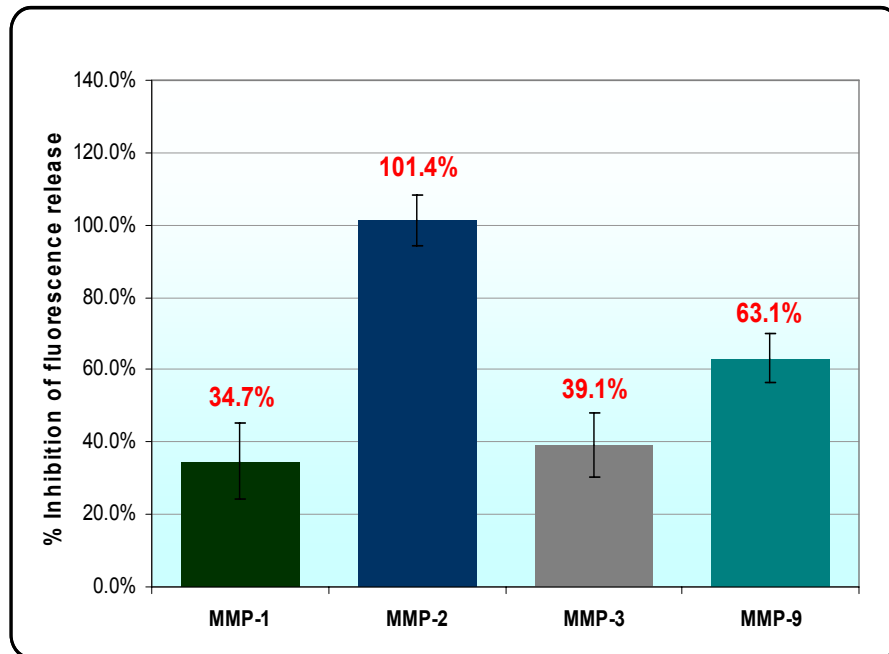
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We research for you



1. INHIBITION OF ECM DEGRADATION (II)

Gelatin (denatured collagen)



- Peptide AC29 0.5 mM.
- The fluorescence released by quenched gelatin (denatured collagen) when digested with human MMPs was measured.

PEPTIDE AC29 inhibited the production of several MMPs

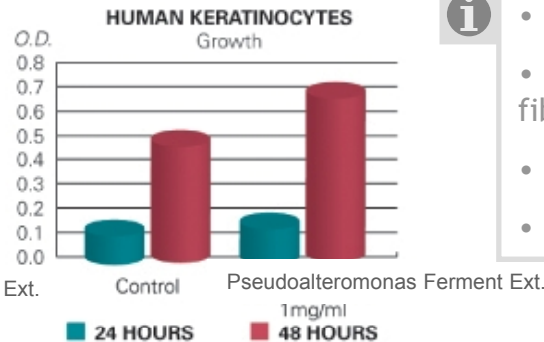
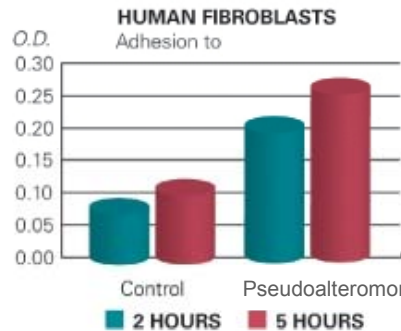




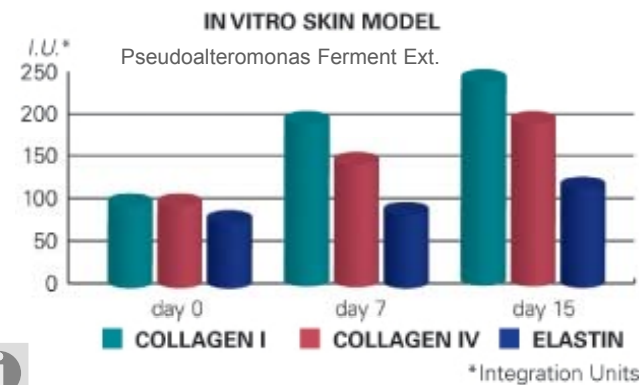
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VANISTRYL®: ACTIVITY IN THE ECM (III)

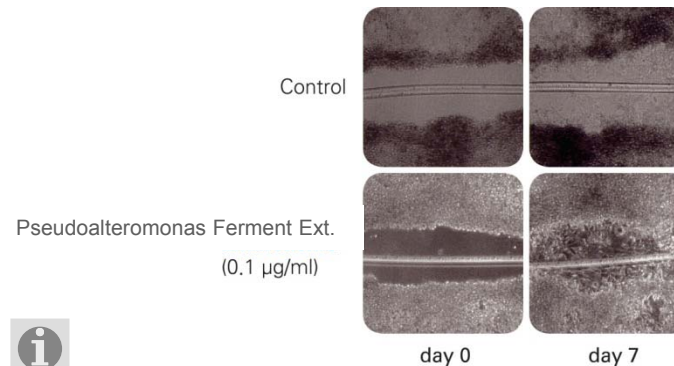
2. ECM STRENGTHENING (II)



- 1 mg/ml Pseudoalteromonas Ferment Extract.
- on a culture medium (either human dermal fibroblasts or epidermal keratinocytes).
- Control: collagen type I.
- CVDE technique (Crystal Violet Dye Elution).



- 1 mg/ml of a cream containing 5% Pseudoalteromonas Ferment Extract.
- on reconstituted human skin.
- Determination of the levels of Collagen I and IV (Dot Blot method) and Elastin (Western Blot method).



- Linear wound was induced in co-cultures of keratinocytes.
- Cicatrization was compared to the untreated control culture.

