Dr Irena Eris
COSMETIC LABORATORIES

Evidence-Based Skin Care:
in vivo efficacy of an anti-aging cream

Karolina Bazela[1], Maud Le Guillou[2], Renata Dębowska[1], Kamila Rakowska[1], Beata Ostrowska[1], Irena Eris[1]

1 Dr Irena Eris Cosmetic Laboratories, Warsaw, Poland
2 R&D SILAB, St-Viance, France

INTRODUCTION

In vivo efficacy testing of cosmetic products is an obligation for the manufacturer in order to fulfil regulatory requirements. Every claim for cosmetic product shall be supported by adequate and verifiable evidence. Objective methods measuring cosmetics' efficacy are needed not only to meet legal requirements but also consumers demands. The aim of our study was to evaluate anti-aging efficacy of cosmetic product (07306 formula based on Cichorium intybus (chicory) root extract and encapsulated retinol) by different *in vivo* methods.

MATERIAL AND METHODS

The 4 weeks' application study on volunteers' skin between 59-73 years old was performed. Skin condition was analyzed by VISIA Complexion analysis as well as Cutometer MPA-5 and Visioscan probes. The study of the capacity of the formula to repair the previously deteriorated barrier function was performed as well according to the following methods: Tewameter and in vivo confocal microscopy (Vivascope 1500 Trilaser, Mavig GmbH).

RESULTS

Visia analysis

We observed reduction of wrinkles visibility by 20% in 73% of volunteers and by 9% in all volunteers (n=18).
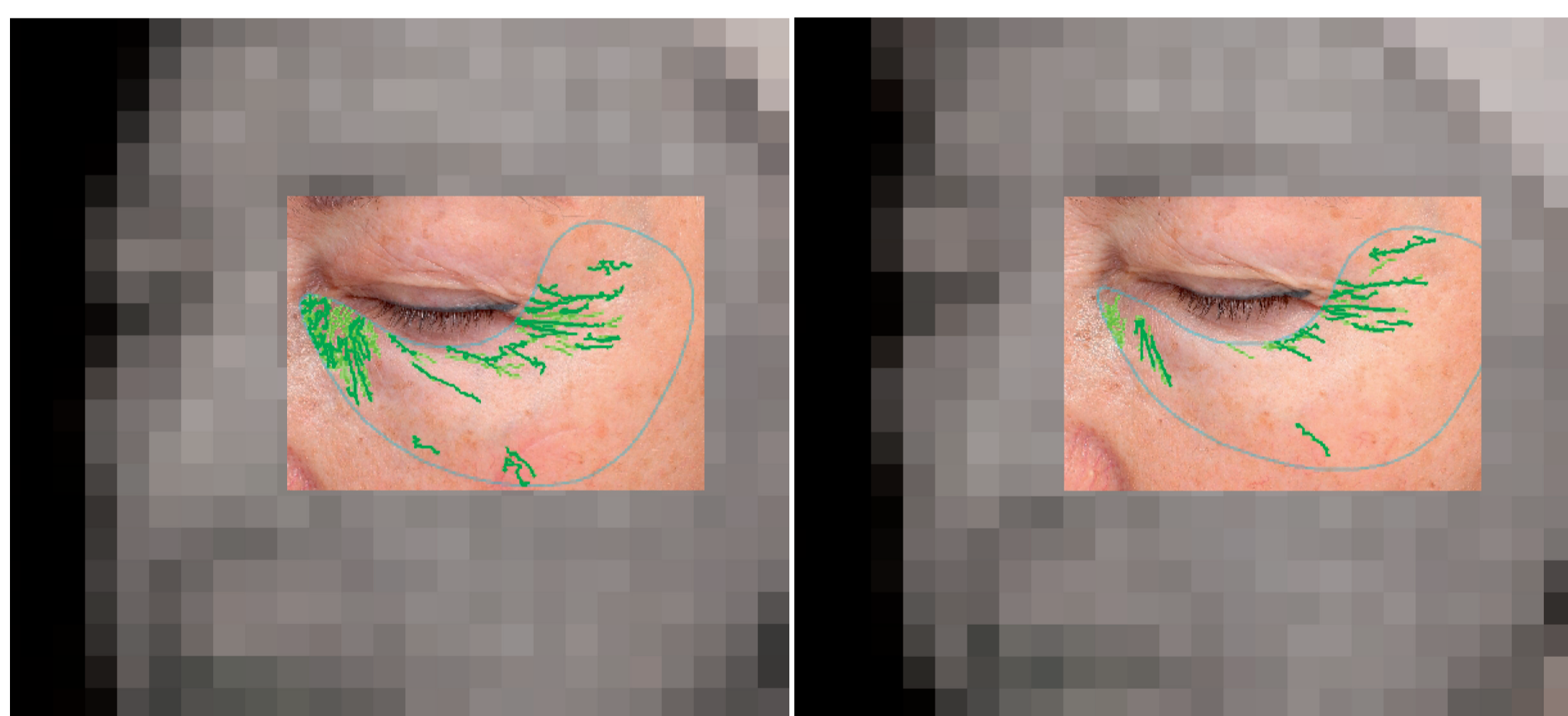
Skin analysis by VISIA of 70 years old subject after 2 weeks of facial mask 07306 usage. The significant reduction of wrinkles visibility was demonstrated.

Visioscan and Cutometer MPA-5 Analysis

| Visioscan n=18	D14 (% of improvement)
SESM – skin smoothness considering moisturization	+10% in all volunteers + 29 % in 72 % of subjects
VOLUME - wrinkles' depth, volume and number	-16% in all volunteers -46% in 67% of subjects
SURFACE- skin smoothness	+ 5% in all volunteers +14% in 61% of subjects
Cutometer MPA-5 n=14	D14 (% of improvement)
Melanin	-6% in all volunteers -11% in 71% of subjects
Erythema	-3% in all volunteers -10% in 71% of subjects

Skin topography analysis revealed improvement in skin texture parameters after 2 weeks of facial mask 07306 usage. Melanin and erythema level was reduced as well.

Volunteers self-evaluation

| Effects of facial mask 07306 usage after 2 weeks	According to volunteers self-evaluation (n=18)
Smooths the skin	87%
Moisturizes deeply	87%
Nourishes deeply	87%
Brightens the skin	87%
Improves skin elasticity and firmness	80%
Pigmented spots are less visible	60%
Has anti-aging effect	67%

All the anti-aging effects were confirmed by volunteers.

TEWL measurement
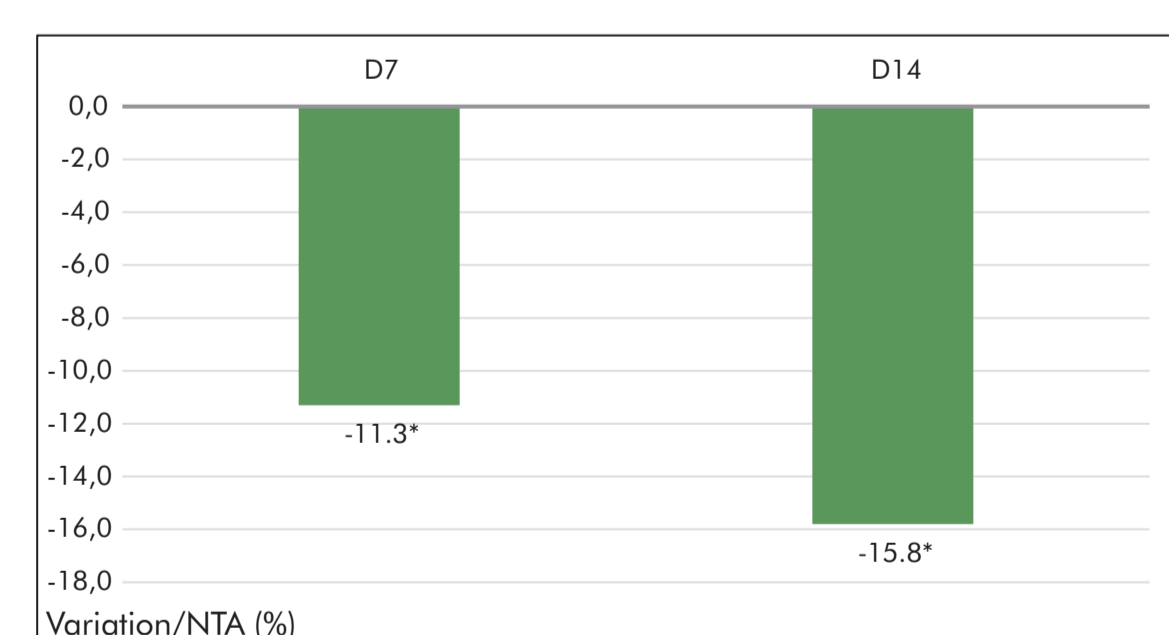
|	Variation / Non-treated area (%)
D7 (n=17)	-11.3 (P = 0.0481)
D14 (n=17)	-15.8 (P = 0.0142)

Effect of the formula Facial mask 07306 on the TEWL measured on previously altered calves with SLS versus the non-treated area. After 14 days of twice daily applications and in comparison to a non-treated area, tested formula significantly reduces transepidermal water loss of skin with a deteriorated barrier function by 15.8% (P = 0.0142) in 76% of individuals.

In vivo confocal microscopy study
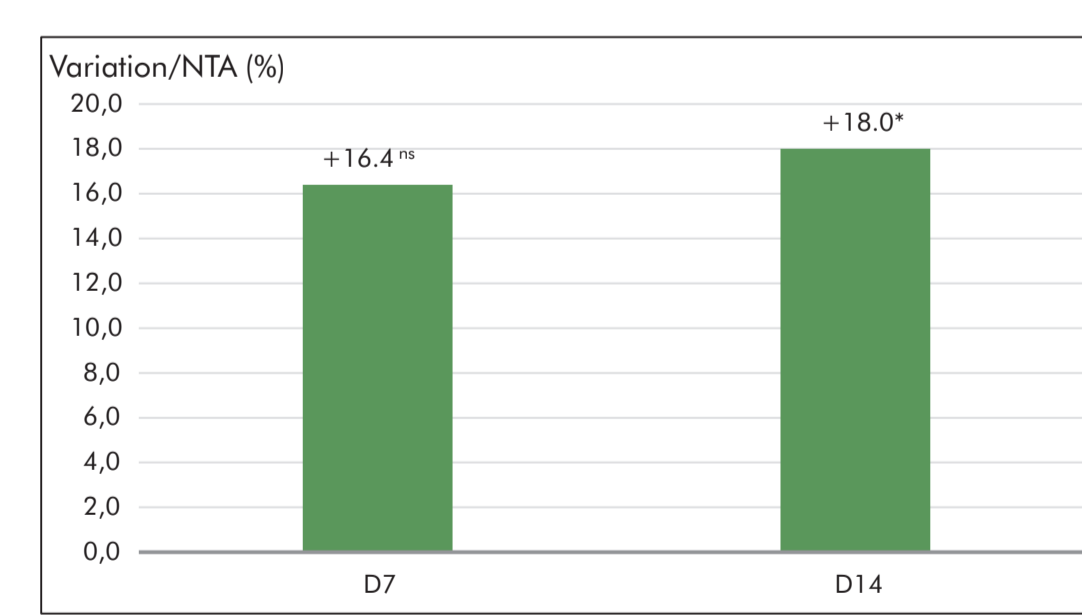
	Variation / Non-treated area (%)
D7 (n=17)	+16.4 (P = 0.0575)
D14 (n=17)	+18.0 (P = 0.0302)

Effect of the formula Facial mask 07306 on the surface state of the skin at the cellular level versus the non-treated area. An improvement of 18.0% (P <0.05) of the appearance of the skin surface (parameters: arrangement and shape of cells, the presence or absence of squama) was demonstrated. This effect was observed in 53% of volunteers.
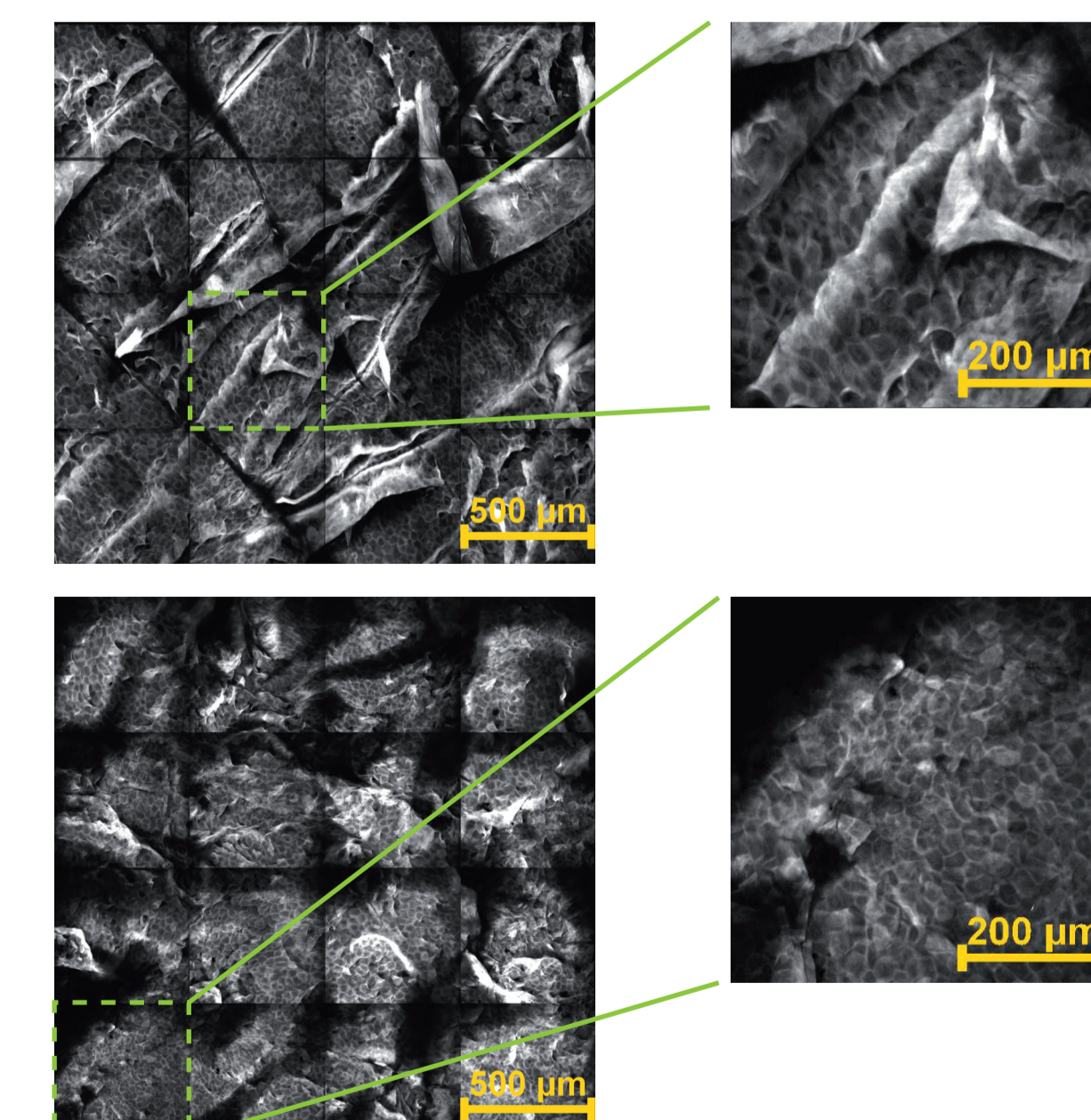
Confocal microscopy images of skin surface of selected volunteer.

CONCLUSIONS

Detailed quantitative skin condition analysis by reliable and precise in vivo methods is crucial to demonstrate the efficacy of skin care products. Testing methods presented here could be useful for substantiating claims for anti-aging products.