skinobs

Focus #9

Testing expert discussion around the anti-ageing claim evaluation

They contribute to this expert panel

Dr. GOYA analytics
PIXIENCE Healthcare Technology Solutions
COMPLIFE GROUP
miravex
SGS proderm
+K electronic
EOTECH
NEWTONE A QIMA Life Sciences Company
VALIDATED CLAIM SUPPORT
phenocell stem cells for better drugs
IEC GROUP

Testing experts have the floor

Summary

Skinobs approach on anti-ageing
How to objectivate this claim?

The cosmetics industry is shifting away from anti-ageing claims towards a more positive approach to ageing. Consumers now seek a **'pro-ageing' philosophy** that prioritizes looking healthy overlooking younger. Brands are embracing a new vocabulary centered on renewal, regeneration, and glow to align with this shift. The focus is on **supporting the ageing process rather than fighting signs of ageing**, providing emotional pleasure and sensorial experiences through skincare as 'pro-longevity' life enhancers.

The exposome process beyond the Ageing Mechanisms

The factors influencing skin ageing are now widely understood, focusing on two main categories: **intrinsic and extrinsic factors**. The 20th century delineated these as **exposomes**–external elements like sun exposure, pollution, diet, and lifestyle–and the biological clock, governed by our genome. For the elderly, typical signs of ageing include skin thinning, dryness, and various skin irregularities, which manifest differently based on phototype–light skin tends to thin, while dark skin thickens. UV rays, particularly UVB and UVA, cause significant dermal damage, largely through oxidative stress induced by environmental conditions.
Pro-age treatments aim to enhance **blood circulation, stimulate collagen production, and redefine contours for a firmer appearance**. They employ moisturizing ingredients for immediate and long-term effects, bolstering skin elasticity and gently exfoliating dead cells.

These changes affect human temporality, particularly impacting the epidermis-dermis-hypodermis exchanges within the skin. The increasingly intricate nature of modern lifestyles has shifted how anti-ageing treatments are globally employed. The industry is proactively integrating cutting-edge technologies like **genomics**, **AI**, to develop, produce, and market these targeted skincare solutions, meeting regulatory demands and aligning with consumer needs.

The Studies of Skin Age Perception

Taking a closer look at the realm of anti-ageing products, they constitute the most abundant and precisely targeted category within cosmetic offerings. These products, apart from varying in regulatory status across different regions, generally claim multiple effects on various mechanisms:

- They aim at specific targets such as **skin relief, collagen, cellular communication**, and the dermo-epidermal junction.
- These treatments address **localized concerns** like crow's feet, lion's wrinkles, and the contours of the face.
- They also target different skin depths, whether it's the **epidermis, dermal-epidermal junction, or the dermis itself.**

- Additionally, these products are interconnected within diverse mechanisms involving cells and biochemistry, encompassing microbiota, keratinocytes, fibroblasts, melanocytes, and nervous receptors.

Beyond the conventional improvements in skin surface and structure, skincare tailored for mature skin also promises enhancements in emotional well-being and sensorial properties. Nevertheless, the visible signs of ageing continue to be meticulously studied as tangible proof of product efficacy.
These products pledge to **restore tissue elasticity, redefine facial contours, and enhance plumpness and volume.** The significance of specific signs of ageing varies among different ethnicities. For instance, **in Asian populations**, skin tone, dullness, and hyperpigmentation are commonly considered signs of ageing, whereas among **Caucasians**, wrinkles around the eyes and forehead hold more importance. Additionally, sagging around the mouth and jawline tends to be observed earlier in some ethnicities.
The spectrum of anti-ageing claims is expansive, encompassing notions like **firmness, radiance, anti-sagging, energizing effects, barrier function improvement, increased cellular renewal, and the reduction of senescence spots.**

The signs of skin ageing can be categorized into several aspects:

- **Skin color and pigmentation** issues like redness, tone, radiance, age spots, and dark circles under the eyes.
- **Skin topography concerns** including crow's feet, furrow lines, upper lip and under-eye wrinkles, and skin roughness.
- **Skin structure** variations encompassing thickness, the dermal-epidermal junction, and barrier function.
- **Volume-related changes** in the face, nasolabial sagging or smile lines, puffiness, and eyelids.
- **Biomechanical properties** such as firmness and elasticity.

The Various Ways to Objectivate this Claim

Cosmetic brands have a valuable opportunity to substantiate pro-ageing effects through rigorous biometrological and scientific measures. Conducting efficacy studies aligns with regulations in different global regions, with European cosmetics adhering to common Product Information File (P.I.F) guidelines.
To support product claims, adherence to six common criteria is essential, although specific norms exist for sensory analysis and sun protection index (cf. ISO). Guidelines such as EEMCO and Good Clinical Practices provide frameworks for human testing, ensuring consumer protection against misleading claims and upholding the industry's credibility.
In the realm of 'well-being,' the concept of 'anti-ageing' gives way to 'pro-age' or 'plain age,' considering skin condition holistically. Evaluating product properties involves a sensory, sometimes neurosensory, and holistic approach. The impact on quality of life, sensations, and feelings is measured, with investigators selecting tests from five main categories: **consumer tests, sensory or emotional analysis, biometrological studies, and clinical scores.** Protocol designs often combine two or three categories to assess a product comprehensively.
Various devices facilitating **quantitative, semi-quantitative, or imaging assessments** are available for different skincare targets, offering multiple validation methods for product performance. Researchers design multi-parametric protocols based on specific skin effects being studied.

Regardless of study scale, biometrological techniques prioritize precise data acquisition, optimal repositioning, high resolution, quick capture time, and automated rotation systems for accuracy.
It's crucial for investigators to collaborate closely with Contract Research Organizations (CROs) to meticulously design protocols, define inclusion criteria, establish measurement timelines, treatment conditions, and select optimal devices. Investing time in briefing these essential elements is never wasted; it ensures the integrity and reliability of the study outcomes.

From Trends to High-tech

In the **Skinobs Clinical Testing Platform**, corresponding to the objectivation of the anti-ageing claims, you can find:

- 126 methods
- 144 laboratories
- 36 countries

The current trend of products claiming action on **the "microbiota"** belongs to a global trend of respect for the skin ecosystem. Measurements of the effects of pre-or probiotic products are complex due to the nature of possible interactions even if ultra-sophisticated genomic methods are available. Demonstrate a true effect with the explanation of a proven mechanism is underway. Different manufacturers of ingredients take up the issue and try to answer this very fashionable question.
Finally, the other **major "antipollution"** trend is integrating both concepts of "anti-ageing" and "well-being". A protection component to pollution becomes tacitly a preventive anti-ageing activity, as pollutants are genuine oxidative factories. And in parallel the "well-being" component is evoked through purifying, cleaning and repairing effects in post-pollution treatment.

The Bright Future of Skin Science

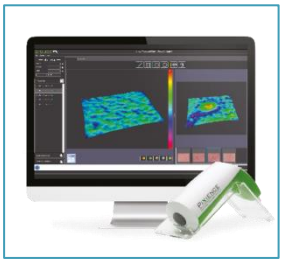
Cutting-edge biometric measurements link technology to personalized digital experiences, revolutionizing consumer choices from stores to personal care. This convergence may align cosmeticians with effective marketing strategies.
Precise skin imaging, from centimeter to nanoscale, gains significance, measuring water, lipids, dermal-epidermal junctions, matrix, and fibers. Techniques seek enhanced resolution, broader coverage, non-invasive, contactless methods, focusing on aging, radiance, biomechanics, and moisturization. Advanced algorithms and statistics are pivotal for their success.
Integrating traditional biometrics with high-tech devices and biomarkers enhances understanding of skin structure and functions, boosting measurement accuracy and diversifying cosmetic claims for varied ethnicities.
The era of interconnected skin diagnosis and DNA analysis devices, coupled with personalized treatments, reshapes skincare evaluation, facilitating innovative product development to meet evolving consumer needs.

PIXIENCE
HEALTHCARE TECHNOLOGY SOLUTIONS

Anti-ageing processes by Pixience

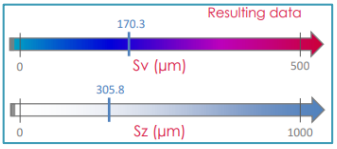
Sébastien Mangeruca

Skin ageing is a complex biological process linked to a degradation in cell regeneration and maintenance mechanisms. It is influenced by the combination of endogenous factors like genetic and exogenous factors like light exposure or pollution.
During this process, skin become thinner, and the dermis endures changes, like a loss of tonicity and a slackening due to the melting of fatty and muscular tissues, which don't fulfil their support function anymore. Ageing can also be associated with cicatrisation defaults, which result in the apparition of chronical wounds.
Scientific research and analyze of skin ageing produce many anti-ageing strategies. Realize all the necessary clinical tests to prove the efficiency of your anti-ageing assets.
More than a chromameter, C-Cube CR 3 is the most versatile device for color and surface analysis, designed to be used in cosmetic clinical trials. French leader in digital dermoscopy, Pixience works closely with dermatologists and researchers to develop high quality products for skin and hair imaging and analysis, this device covers several claims of your studies.



An exclusive method of metric and color calibration makes the C-Cube CR 3 the only dermoscope to provide reproducible colors, correlated with a spectrophotometer. Moreover, given its ease of use and flexibility, C-Cube CR seamlessly and painlessly integrates your clinical trials.
With his measures COLORS CIE L*a*b*, the C-Cube CR 3 allows you to illustrate and measure the efficiency degree of your assets on skin and scalp. Thanks to the data contained in each pixel, the ROI placement in picture, and colors calibration, you ensure control and precision in your clinical studies.
You can also process a 3D analysis of your image. Using a technique called photometric stereo, the C-Cube system analyses multiple images under different lighting conditions to estimate surface normal. 3D measurements can be done in-vivo or using silicone replica in the Sample Reader. Combined with a geometric calibration the software produces elevation information at each pixel. 3D analysis allows to visualize the microrelief to analyze the isotropy.
This condensed of technology allows to measure and characterize signs of skin ageing: wrinkles, pigmentation, roughness, microrelief and isotropy.

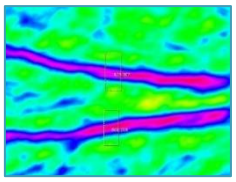
- **Wrinkles**



Wrinkles are skin line due to a weakening of dermal structures. They appear with age when collagen et elastin get loud.
The C-Cube Clinical Research software allows to:

- **Depth measurement**: it provides a 3D criterion called **Sz**: It's the total amplitude in µm within a given region of interest.
- **Length measurement**: If the wrinkle is short enough to fit within the FOV of the C-Cube, you may use the line tool to measure it.

You may take several samples across the wrinkle to get an average depth, or alternatively, try to always target the exact same location.



- Pigmentation

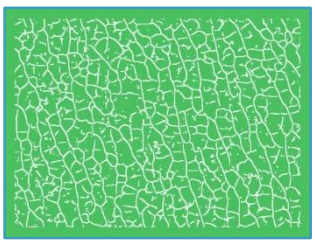
Sunlight exposure, hormones, skin damage, and exposure to chemicals can affect melanin production and brown spots or discoloration may appear with age.
The C-Cube Clinical Research software provides the amount of melanin through an index called pigmentation index. It is defined as the distance to a reference dark skin which maximizes melanin content. It also provides the Individual Topology Angle (ITA) for the area. It also allows to calculate the standard deviation for both pigmentation criteria. These values are small for even and homogeneous skins, and they are higher for uneven skins.

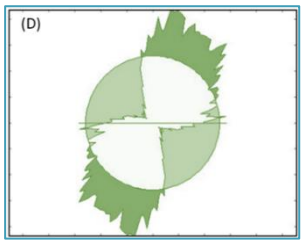
- Roughness and microrelief

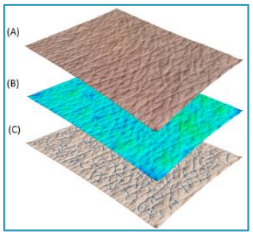
Healthy skin is described as soft and smooth. These characteristics reflect a sufficient amount of collagen and elastin support. Ageing can alter these proteins and makes the skin rough.
Skin's roughness can be measured anywhere on the body. 3D measurements can be done in-vivo or using silicone replica depending on the expected efficacy on amplitude, one will select the most appropriate parameter between Sa and Sq. Sa and Sq represent the average distance to the ROI's mean plane. Sdr, is expressed as the percentage of additional surface area contributed by the texture as compared to the planar definition area.
Micro-relief is structured on the forearm or the leg: it shows a pattern of lines and triangular cells. Anti-aging treatments can alter this structure.
Micro-relief is non-structured on the face, but anti-ageing treatments may reduce the amount or amplitude of the relief.

- Isotropy

The isotropy of the skin microrelief is an indicator of aging and hydration based on the analysis of the nature of the skin fine lines. Lines oriented in all directions are called "isotropes" and reflect a young and well hydrated skin. Lines organized in a preferably direction are called "anisotropes" and indicate an older and/or dry skin.
C-Cube Clinical Research allows you to observe the lines of the microrelief in HD color photographs, or through 3D surface reconstructions. In both cases, Pixience Cloud gives you access to automated line detection and isotropy analysis.







This way we can measure: The number of lines and their average depth. We also calculate the distribution of directions of the lines.

CONTACT
www.pixience.com

Sébastien Mangeruca - CEO
sales@pixience.com

Evaluating Anti-Aging Claims: Firming, Radiance, and Anti-Wrinkle Effects by Validated Claim Support

Jane Tervooren

The pursuit of youthful and radiant skin has driven the beauty and skincare industry to develop a wide range of anti-aging products, each claiming to offer firming, radiance-enhancing, and anti-wrinkle effects. These claims are enticing, but discerning consumers must approach them with a critical eye. Validated Claim Support specializes in the testing and evaluation of these products, helping to shed light on their efficacy and credibility.

At the core of any credible evaluation lies scientific research and clinical trials. Studies involving a significant number of participants and a robust methodology provide the most reliable evidence of a product's effectiveness. Look for products backed by studies carried out at an FDA registered clinical testing lab that demonstrate measurable improvements in skin firmness, radiance, and reduction of wrinkles. Validated Claim Support is committed to transparency and the scientific process, enhancing the credibility of the product's claims.

Central to the effectiveness of any anti-aging product are its active ingredients. Ingredients such as retinol, hyaluronic acid, peptides, antioxidants (like vitamins C and E), and niacinamide have garnered substantial scientific support for their anti-aging properties. When evaluating a product, scrutinize its ingredient list and concentrations. A high concentration of scientifically proven ingredients suggests a higher likelihood of efficacy. Also consider the formulation's stability and compatibility to ensure that these active ingredients can deliver their intended benefits.

As a part of a clinical study, subjective data and testimonials can offer valuable insights into a product's real-world performance. Home use and self-perception questionnaires along with the clinical evaluations help balance a comprehensive study.

Validated Claim Support offers the highest quality before-and-after photos in the industry. Images can be a powerful visual representation of a product's effects. However, it's important to approach these images critically. Lighting, angles, makeup, and even image editing can influence the perceived results. Look for photos taken in controlled settings and without enhancement to gain an accurate understanding of the product's potential effects.

Endorsements from independent skincare professionals, dermatologists, or consumer advocacy organizations can significantly bolster a product's credibility. These endorsements are rooted in expert analysis and offer a more objective assessment of a

product's claims. Look for endorsements that highlight the product's ability to deliver on its promises of firming, radiance enhancement and wrinkle reduction.

Anti-aging effects are rarely instantaneous; they often require consistent, long-term use. Evaluate the product's claims in the context of its recommended duration for achieving visible results. Sustainable improvements in firmness, radiance, and wrinkle reduction over time are indicative of a product's efficacy. Beware of products that promise dramatic transformations, as these claims might lack ethical scientific substantiation.

As consumers, it's crucial to discern between reasonable and exaggerated claims. Be cautious of products that make extraordinary promises, such as erasing all wrinkles or turning back the clock on aging. A reputable product should provide realistic expectations and focus on gradual, sustainable improvements in skin texture, tone, and appearance.

Products that have received regulatory approvals, such as those from the FDA or equivalent agencies in other regions, adhere to specific safety and quality standards. While regulatory approval does not guarantee efficacy, it attests to the product's compliance with established guidelines. Prioritize products that have undergone thorough safety assessments and quality checks.

Comparing a product's claims with similar offerings on the market provides valuable context. If a product's claims appear significantly more effective than those of its competitors, exercise caution. A comparative analysis can help identify products that strike a balance between ambitious claims and credible results.

Evaluating the anti-aging or well-aging effects of products and associated claims demands a multidimensional approach. Rely on results from clinical studies run at an FDA registered lab, scrutinize active ingredients, consider participants' feedback, and seek independent endorsements. This will collectively contribute to making an informed decision when choosing a well-aging product. As consumers, maintaining realistic expectations and prioritizing evidence-based skincare practices are integral to achieving the firming, radiance-enhancing, and anti-wrinkle effects promised by anti-aging products.

CONTACT

www.validatedcs.com

Jane Tervooren- Vice President
jane@validatedcs.com

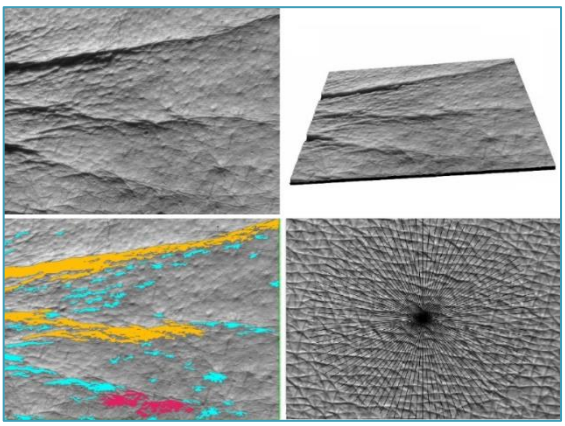
Established measurement systems from one hand around your anti-aging research by Courage+Khazaka

Diana Khazaka

The desire to stop or even reverse skin aging is as old as mankind. The topic of anti-aging is still one of most researched in cosmetic investigations.

Naturally, one of the most important aspects of anti-aging research is the **topography of the skin**, especially the analysis of deep lines & wrinkles and the micro-relief.

The multi-talented **Visioscan® VC 20plus** skin camera based on special UV-light illumination takes non-glossy, detailed images of the skin. Its unique parameters **SELS (surface evaluation of the living skin)** quantify skin surface topography in terms of lines, roughness, smoothness and scaliness as perceived with the human eye. Also, directionality of skin texture lines and fineness of the surface texture can be calculated on the acquired pictures.



The proven **Visioline®/Quantirides®** system is the ideal and economic instrument to objectively analyse **deep lines and macro wrinkles** such as "crow's feet". Its measuring principle, illuminating detailed Silflo® replicas by oblique light, is well-known and published in various studies. It has just undergone a **massive make-over with brand new software** with many new features and highly accurate improved calibration algorithms. In addition to the important parameters of **wrinkle depths (in µm)**, lengths and areas of large wrinkles such as crow's feet, the roughness of the skin micro-relief can also be calculated in seconds with the well-known R-parameters. Since skin surface replicas can be collected easily anywhere in the world, the Visioline®/Quantirides® is the perfect tool for international multi-center studies.

Assessing the skin micro & macro relief has never been so easy.

With increasing age, **skin elasticity** and **firmness** will decrease. The **Cutometer®** is by far the most used device in this field. In the numerous literature available, it is also referred to as cutometry, honouring its benchmark status. Through the suction measurement principle of the device, parameters such as firmness (skin ability to resist mechanical stress), elasticity (immediate recovery after stress) and skin energy (skin behavior after repeated

stress) are determined. New parameters such as "maximum collagen power" complement the world-renowned Cutometer® measurement in the latest, sophisticated software MPA CTplus.

Youthful skin is characterized by a radiant and even complexion. Therefore, **skin colour measurements constitute** a vital part of efficacy testing for products fighting the biological clock. The **Mexameter®** assesses even slightest changes in **melanin** and **erythema**, the two main factors for the perceived skin colour. Not only uneven distribution of pigmentation and pigmented lesions, especially at body areas exposed to the environment, specifically to sun light and air pollution, are signs of (premature) skin aging. The loss of strength in the collagen fibers holding down the micro vessels also results in them rising closer to the skin surface. At the same time the blood vessels themselves will dilate due to the weakening of their walls. Altogether, this will cause pronounced redness at certain areas with progressing age.

The new **Skin-Colorimeter Flex CL 440** expresses the colour in the CIE L*a*b colour space. The calculated ITA value (Individual Typology Angle) is established to describe skin colour types. Due to interchangeable measuring tips that optimally illuminate larger and smaller skin areas and a unique placement aid by overlapping light spots, the Skin-Colorimeter Flex CL 440 is particularly suitable for measuring **age spots** as it enables you to precisely hit and measure the skin site in question.

With increasing age and hormonal changes, especially for women, menopausal skin tends to become drier in terms of hydration and sebum. In order to keep the skin supple, adequate cosmetics need to replenish these losses. Therefore, other measurements frequently used in anti-aging research are those of **Corneometer® Sebumeter®** and **Tewameter®**, all three regarded as the respective gold standard devices for assessing **skin hydration**, **sebum,** and **barrier quality**. Additionally, the measurement of the skin pH value by the **Skin-pH-Meter is quite useful**, especially for studying its impact on the **skin microbiome** that changes with age and the importance of which cosmetic science is just beginning to understand.

The flexible, economic Courage + Khazaka devices allow starting with your most important focus and expand the system with time. Start with easy-to use in-house anti-aging efficacy studies in all stages of your formulation to ensure you are giving out the best product you can do.

CONTACT

www.courage-khazaka.de
info@courage-khazaka.de

Diana Khazaka - General Manager Courage + Khazaka
dkhazaka@courage-khazaka.de

NEWTONE
A QIMA Life Sciences Company

Newtone can help you analyze all signs of ageing

Solène Trevisan

Nowhere are signs of ageing more visible than in the skin. Indeed, signs of skin ageing are familiar to most of us because they can be observed on everyone's face. As global life expectancy continues to rise, the ageing of the skin is becoming a growing concern for the majority of individuals.

According to the ethnic group, these signs will differ and appear in a more or less pronounced way. Among these, and just to name a few, we can find several types of wrinkles (deep wrinkles, fine lines, etc.), sagging of certain parts of the face, pigmented spots (a consequence of photoageing), and an increase in the size and visibility of pores.

In this context, **Newtone's** mission is to provide its clients with solutions to accurately and precisely quantify the effect of their products and treatments on numerous signs of ageing. Aware that the cosmetics and dermo-cosmetics industries aim to address all ethnic groups with specialized and adapted products, Newtone offers connected systems to simplify worldwide study monitoring.

All types of wrinkles

Wrinkles can be studied with a full-face imaging system such as the ColorFace®, but can also be studied with a smaller nomadic device like the SkinCam® or SkinCamPro®! The choice of the system will depend on the study goal and study design. For example: What are the wrinkles of interest for the study? Is it only one type or, on the contrary, should all facial wrinkles be analyzed? Will the analysis be carried out on a large number of volunteers or only on a limited number? How many time points will there be?

Once the system has been selected, and images have been captured, **Newtone** can also assist you with the image analysis. Thanks to its powerful and fully customizable in-house algorithms, all types of wrinkle regions can be detected: under-eyes, glabellar, forehead, upper lip wrinkles; nasolabial and bitterness folds; crow's feet... Moreover, depending on the claim to be assessed, some studies will analyze deep wrinkles, while others will focus on fine lines. Finally, specially dedicated algorithms for different phototypes and skin typologies are available to meet its client's needs and thus facilitate multi-center studies.

Facial Sagging

With age, the skin loses elasticity and volume, causing it to droop on different parts of the face. Both from 2D images and 3D acquisitions, **Newtone** can help you analyze sagging (for example, on the jawlines or eye bags) and follow its evolution.

Pigmented Spots

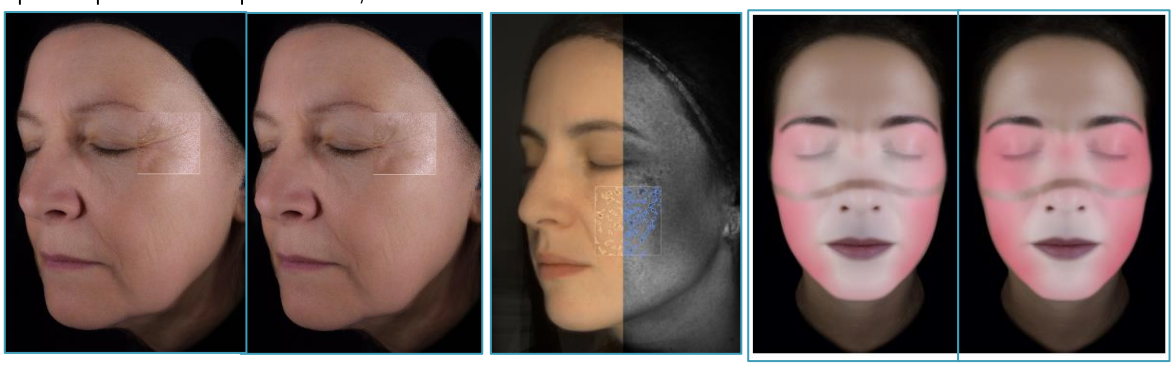
Newtone offers two approaches to studying pigmented spots. The first one is linked to visual perception; the second one relies on the study of concrete biological properties related to pigmented spots.

In the first case, color parameters (color and contrast of the pigmented spot with its surrounded area) as well as morphological parameters (area, number, and density of the pigmented spots) will be analyzed following the image acquisition with the ColorFace®, SkinCam®, or Digicam®. Indeed, the Digicam® is the option of choice when analyzing the hands, an area particularly affected by lentigo. This device includes a hand-positioning support and delivers high-quality images for hand pigmentation analysis.

In the second case, thanks to its hyperspectral imaging systems, Newtone offers an unparalleled opportunity to measure melanin concentration in the skin. If the analysis concerns only one specific area of the face or body, the SpectraCam® should be chosen. On the contrary, if the analysis involves several areas of the face or even a full-face acquisition, then the SpectraFace® should be used.

Advancing future spots assessment with UV analysis

Recently, the cosmetics and dermo-cosmetics industries have been turning their attention to the study of future spots. Although fascinating, this is a complex subject because predicting the exact places where pigmentation spots will appear is challenging. Yet, the UVCam® developed by Newtone, a dedicated full-face UV imaging device, is a great contribution to this subject. Indeed, the UVCam® can help you visualize underlying pigmentation, i.e., areas of higher melanin content but which are not necessarily visible in regular color images. The UVCam® also greatly contributes to precisely monitor the behavior of photoprotective products, such as sunscreens.



Innovative illustrations to make your product stand out

As a result of its strong commitment to boosting its clients' marketing efforts, Newtone can help you highlight the visible effects of your products and thus communicate with consumers in a powerful way.

Data from both its own imaging systems (ColorFace®, SkinCam®, UVCam®, etc.) but also from other devices (TEWL meters, corneometers, and many others) can be used by Newtone to generate impactful illustrations.

As an example, the average face technology (a virtual mean of a number of real faces) serves as a great tool to showcase before and after effects in the region of interest by superimposing a real selected case from the clinical study to the average face. Equally important, all limitations of the right to the image are overcome in this way!

CONTACT

www.newtone.fr

sales@newtone.fr

Antera 3D & anti-aging claims by Miravex

Guido Mariotto

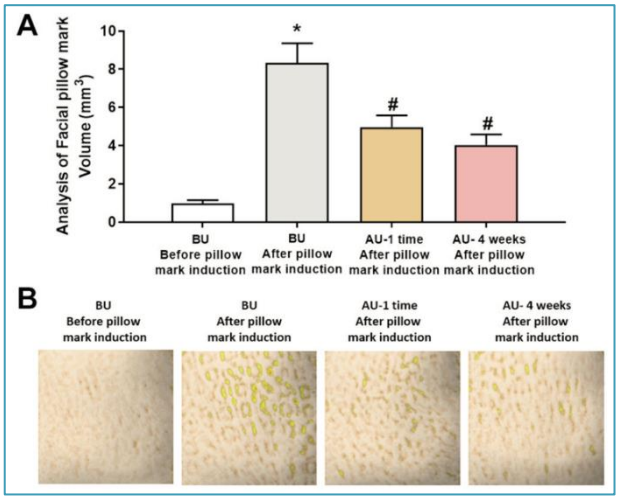
Skin aging depends on a variety of factors: your lifestyle, diet, heredity, and other personal habits. Notable risk factors include age, gender, ethnicity, air pollution, nutrition, smoking, sun exposure. Anti-Aging involves a wide range of claims that are designed to make consumers look and feel younger and more vibrant. To support anti-aging claims, a product should result in the improvement of several aspects of the skin including wrinkles, skin toning and eveness, age spot and hyperpigmentation reduction, skin firmness, pore size reduction, moisturazion, skin smoothness, etc.

Thanks to its versatility, the Antera 3D can be used to support many of the claims related to anti-aging.
Here, we cite a few publications[1,2,3,4,5] that have used the Antera 3D for anti-ageing claims, and we will focus on a very recent publication6 using the Antera 3D to measure a lifting effect in the eye area, the reduction of wrinkles and the evaluation of facial pillow marks relief effect. In this study, caviar oil was investigated as an ingredient to combat the signs of aging – to potentially reduce wrinkles and skin sagging – thanks to its rich composition of fatty acids, vitamins, and minerals. The in-vitro and ex-vivo analysis was supported by a clinical study, demonstrating that caviar oil has a substantial impact on mitigating skin aging and holds potential for application in anti-aging products.
The Antera 3D was used to investigate six types of deep wrinkles – forehead, glabellar, nasolabial folds, marionette, lips, and neck wrinkles. In all cases a significant reduction in the wrinkles' depth was measured after one-time use and four weeks of use.

The volume measurements of the Antera 3D were used to evaluate the decrease of induced pillow marks, as shown in Figure 1.

[1] Majeed M. et al., "An Open-Label Single-Arm, Monocentric Study Assessing the Efficacy and Safety of Natural Pterostilbene (Pterocarpus marsupium) for Skin Brightening and Antiaging Effects", Clinical, Cosmetic and Investigational Dermatology, 105-116, DOI: 10.2147/CCID.S238358.
[2] Trivisonno A. et al., "Facial skin rejuvenation by autologous dermal microfat transfer in photoaged patients: clinical evaluation and skin surface digital profilometry analysis", British Journal of Plastic Surgery (2017), doi: 10.1016/j.bjps.2017.04.002.
[3] Yogya Y. et al., "Efficacy and Safety of Using Non-insulated Microneedle Radiofrequency Alone versus in Combination with Polynucleotides for Treatment of Periorbital Wrinkles", Dermatol Ther (Heidelb) (2022) 12:1133–1145.
[4] Sekyoo J. et al., "Anti-Wrinkle Benefits of Peptides Complex Stimulating Skin Basement Membrane Proteins Expression", Int. J. Mol. Sci. 2020, 21, 73; doi:10.3390/ijms21010073.
[5] Adatto M. et al., "Facial treatment with acoustic wave therapy for improvement of facial skin texture, pores and wrinkles", J Cosmet Dermatol. 2020;00:1–5.
[6] Le L. et al., "Investigating the Anti-Aging Effects of Caviar Oil on Human Skin", in vivo 37: 2078-2091 (2023).

Figure 1. ANTERA 3D images of induced pillow marks and measurements of their volume.



The Antera 3D was also used to evaluate three types of eye area lifting (skin filling), including the eyelid area, the area under eye bags, and the outer corner of the eye, as well as the analysis of marionette lines lifting. The results showed significant improvement compared to before using the product, as shown in Figure 2 in the case of marionette lines.

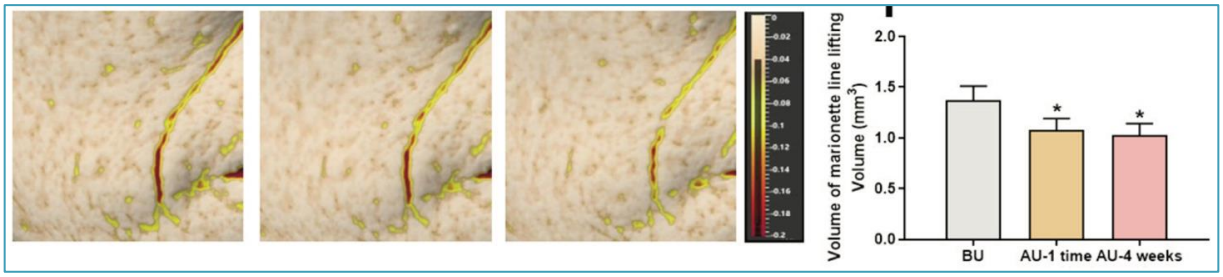


*Figure 2. ANTERA 3D images of marionette line lifting and decrease of volume. Data are shown as the mean ± SEM. *p<0.05. BU: Before use; AU: after use.*

Furthermore, the evaluation of the effectiveness in minimizing makeup entrapment, which can result in clogged pores and acne, was conducted. The Antera 3D analysis results showed that compared to before and after applying foundation, the skin volume parameter value significantly increased in the control group while notably decreasing in the group treated with caviar oil.

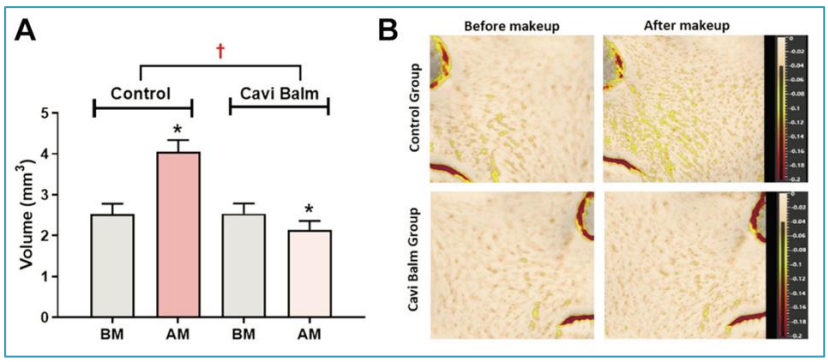


Figure 3. Evaluation of the effect of Cavi Balm on reducing makeup entrapment compared to the Control group as measured with the ANTERA 3D.

CONTACT

www.miravex.com

Guido Mariotto - CEO of Miravex Limited
guido@miravex.com

Sun damage as a main factor in ageing by Dr Goya Análisis

The great enemy of skin ageing and its well-being is solar radiation in all its forms.
Sunlight is essential for life, but it can also be very harmful to our skin and eyes. Sun damage is skin damage caused by prolonged exposure to the sun's radiation, which accumulates over the years. It is therefore important to protect ourselves to avoid the negative effects of radiation on our health. Continuous exposure to free radicals in the skin causes 80% of skin damage and ageing.
The skin has a memory and sun damage is cumulative. The skin produces melanin to protect us from UV radiation, leading to tanning. However, sometimes melanin synthesis is not sufficient to absorb all the radiation, which damages the DNA of the cells, causing DNA mutations.

This process, repeated successively over time, leads to more and more mutations in the cells, until the sun damage is so great that it causes skin diseases. Therefore, it is important to be aware that some of the sun damage we receive with each sunburn remains in our cells forever, i.e. it accumulates. Thus, the more radiation we have received, the more likely we are to suffer the consequences.

CONSEQUENCES OF THESE DREADED FREE RADICALS

- Acceleration of oxidative stress in cells.
- Deterioration of collagen and elastin fibres.
- Damage to the DNA of epidermal cells.

Ultimately, there is a premature skin ageing. We can notice this when our skin is dehydrated, dull, with marked expression lines and rough to the touch, causing photoaging or photoaging of our skin.

Photoageing is the result of natural ageing, to which we are all exposed, plus exposure to other factors such as ultraviolet radiation, pollution, ozone, tobacco and climate change. But, without a doubt, exposure to solar radiation is the main culprit:

- Infrared: generates redness, burning and drying.
- Visible light: has no negative effects per se, but can cause light allergies.
- UVA radiation: causes spots, toxin formation, and photosensitisation when combined with certain substances and enhanced by UVB.
- UVB radiation: causes erythema, thickening of the stratum corneum, alteration of the immune system and skin cancer.
  As a direct consequence of the necessary oxygen consumption by aerobic living organisms, its intensity and consequences depend on the ability of our specific defence systems to counteract the reactive oxygen species (ROS) generated,

among which oxygen free radicals (OFR) are the most important. When an imbalance in free radical formation occurs, the body's antioxidant system is unable to manage it. When this happens, we speak of oxidative stress.

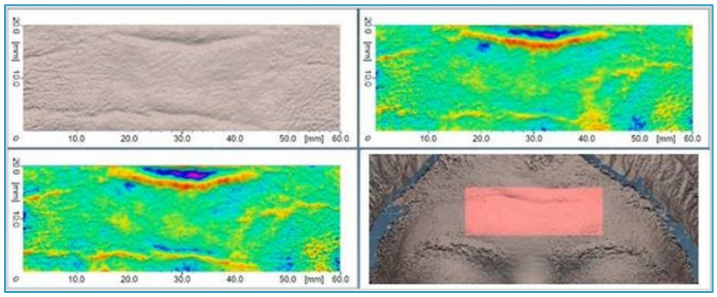
At the cutaneous level, free radicals can cause accumulation of oxidative damage to molecules such as collagen and elastin (glycation), promote the accumulation of pigments such as lipofuscin and melanin causing blemishes, and cause fibrosis in the vessels that nourish the dermis, entrenching gestural wrinkles. Glycation is a spontaneous reaction of blood glucose with dermal collagen and elastin fibres. The accumulation of glycation products (AGEs) is greatest in structural proteins, such as collagen and elastin, as they have a slow turnover time.

The formation of intertwined and rigid molecular bridges between protein fibres with a reorganisation of the network leads to a loss of firmness, elasticity and mobility of the skin. Glycation increases exponentially with age from the age of 35 onwards.

Pro-inflammatory substances that are produced in a sustained manner cause DNA damage and, together with the production of ROS and nitrogen, lead to further cell damage. If, in addition, protective systems such as cell apoptosis fail to eliminate these altered cells and the excessive production of ROS and nitrogen, it induces different types of skin cancer.

WHAT ARE THE SIGNS ON WHICH A PRODUCT SHOULD ACT AND EVALUATE ITS EFFECTIVENESS?

- Wrinkles and expression lines: With age, the production of cells in the epidermis decreases, making it thinner.
- This makes the skin thinner and more easily wrinkled.
- Elasticity and firmness: The older we get, the less elastin and collagen we produce, resulting in skin that sags under the effect of gravity.
- Skin spots: Melanocytes are the pigmentation cells, and in the ageing process their number decreases and they increase in size, forming spots on the skin, especially in areas most exposed to the sun, such as the hands or face.
- More fragile blood vessels: Bleeding appears under the skin (ecchymosis).
- Dryness and tightness: The sebaceous glands decrease their production of sebum, which is an oily substance that protects the skin from water loss. With less sebum production, the skin tends to become dehydrated and drier.
- Lack of radiance: The skin appears duller, due to hormonal changes in women after the age of 35.



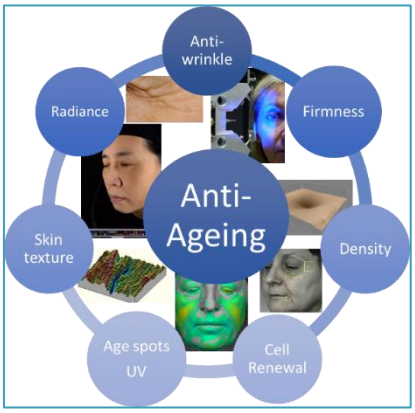
CONTACT

www.laboratoriogoya.com

Ivàn Parra - Comercial director
iparra@laboratoriogoya.com

Holistic approach of anti-ageing effects
Evaluation of anti-ageing products of multi-tone panels by IEC Group

Jean-Robert Campos - Scientific Director



Anti-ageing cosmetics are designed to reduce the effects of skin ageing and help fight the effects of the passage of time in a global way. For some people, an anti-ageing product must act on the surface, at the level of the microrelief, but also deeper in the epidermis and/or dermis.
It should be noted that the signs of ageing that appear on the surface reflect the changes taking place in the different layers of the skin.
In fact, cutaneous ageing reflects the deterioration of all the components of the skin, the epidermis, dermis, and hypodermis.

In the epidermis, the slowing down in cell renewal and the reduction in the production of lipids on the skin's surface mean that the skin is likely to be dry and rough. The mature epidermis may also develop pigmentation spots caused by exposure to the sun.

In the dermis, collagen production declines and is associated with a decline in elastin, leading to disorganization of the skin's connective tissue. With the structure of the dermis altered, wrinkles appear. In addition, blood supply to the skin decreases, which means that the supply of nutrients and oxygen to the skin's surface is less effective, which is why the rosy glow characteristic of young skin tends to fade.

In the hypodermis, the size and number of fat cells decrease, which has repercussions on volume loss, leading to the formation of deep wrinkles and hollowing of the cheeks.

All these processes lead to an overall thinning of the skin and a loss of support, resulting in sagging skin.
In order to assess the anti-ageing effect of a cosmetic product, it will be possible to follow the evolution of different parameters such as **hydration**, the **skin barrier function**, the **restructuring of the microrelief**, the **radiance of the complexion**, the **reduction in fine lines, wrinkles and spots**, the increase in **cell renewal**, the **thickness of the dermis**, the **firmness/tonicity/elasticity**, the **volume of the cheekbones and the refining of the oval of the face**.
To support the development of products or the justification of recommendations for anti-ageing parameters, IEC offers an In Use Test with, as a first option, a visual assessment by experts which may include a scoring of wrinkles all over the face and/or ptosis, using photographic scales (Skin Aging Atlas, R. Bazin), the appearance (surface, intensity) of

spots (sun lentigos), the hydrated appearance, radiance, luminosity and evenness of the complexion. Tactile scoring can also be performed to assess the skin firmness, density, elasticity, suppleness and softness. These scoring are supplemented by self-assessments by the subjects and specific consumer studies.
The previous proposals can be objectified by instrumental methods to reinforce the claims, such as a **moisturizing** effect [Corneometer® CM825- Courage & Khazaka], or a **protective/repairing** effect [Tewameter® TM300 and TMHex - Courage & Khazaka].
The **restructuring** effect of an anti-ageing product is expressed as an improvement in micro-relief by following changes in the micro-depression network [Sampling of the skin surface with cyanoacrylate], [Moisture Map® MM100 - Courage & Khazaka], texture parameters such as entropy, homogeneity, anisotropy index [Visioscan® VC20+ Courage & Khazaka / C-Cube® - Pixience].
Smoothing/anti-wrinkle effects by reducing fine lines/wrinkles using skin replica analysis and image processing [Quantilines, Quantirides - Station Monaderm] which can be associated with a direct in vivo, non-contact optical method such as fringe projection [Dermatop® or AEVA® - EOTECH]. The evolution of skin relief over the whole face, wrinkles and fine lines can be followed using photographs [Colorface®, QIMA Life Sciences - Newtone] and image analysis, which can also be used to extract roughness parameters and monitor the evolution of the **smooth appearance** of the skin.
Lightening / whitening / pigmented spot reduced / homogeneity claims are assessed by direct instrumental measurements [Chromameter®, Spectrophotometer®, Mexameter® - Minolta, SIAScope - SiametricsTM] or via analysis of photographic images [Colorface, C-cube], hyperspectral imaging [SpetraCam® or SpectraFace® - QIMA Life Sciences - Newtone) and specific software [FrameScan - Orion Concept].
Photo-induced pigmentation that is not visible but will appear with age can be detected using polarised monochrome UV imaging [Colorface], and parameters such as the surface area or density of lesions can be extracted and monitored over time.
The **firming** effect of a product, such as **firmness and elasticity**, can be assessed by deforming the skin under the effect of suction [Cutometer® - Courage & Khazaka] or torsion [Torquemeter®] or, inversely by air flow [Dynaskin® or SkinFlex® - Orion Concept].
Other methods can be used to assess the action of anti-ageing products, such as the **plumping** effect on the cheekbones and lower cheeks and the refining of the oval of the face [AEVA] or the effect on increasing **cell renewal** [DHA colouring], and the thickness of the dermis using 25 MHz ultrasound [Dermcup].

Ageing is a natural process for all skin types, but its signs can vary depending on the skin ethnicity.

While loss of volume is a sign of ageing common to all ethnic groups, for Caucasian skin, ageing primarily takes the form of fine lines and wrinkles, while in Asian skin ageing is characterized by diffuse pigmentation spots of the actinic lentigo type, and African skin displays pigmentation disorders (hypo- or hyper-pigmentation) covering a larger area of the face. From its multiethnic panel due to the geographical distribution of its testing centers [Europe, Asia, Africa]: Caucasian [Bulgaria, France: Lyon & Saint-Etienne], Asian [Singapore, Japan, China, Korea], African [Cape Town, South-Africa] **IEC Group propose global appraisal of anti-age performances.**

CONTACT

www.iecfrance.com

Jean-Robert Campos
jr.campos@iecfrance.com

Keep shining: the role of the sebaceous gland in skin ageing by Phenocell

Brigitte Onteniente, CEO

Skin is a mirror of the aging process living organisms go through. Over time, significant aging-associated changes occur in several skin cell types, including keratinocytes, melanocytes, fibroblasts and sebocytes.

Sebum is needed at the surface of the skin

Produced by the sebaceous gland, sebum is instrumental to skin health. Besides its barrier function to protect skin from ultraviolet rays and dehydration, sebum has antioxidant and antibacterial properties, and is involved in the transport of pheromones. Sebaceous glands are particularly abundant in the face, ears, scalp, and upper part of the trunk, which are most exposed to UV and, as such, are involved in specific skin disorders (acne, epidermomas,...) and in physiological aging of the skin.
Sebum secretion is regulated by a number of agents that include androgens, estrogens, cholesterol, PPARs, melanocortin, some growth fators and retinoids. Due to alterations of both internal (neuro-endocrine system, increased oxidative stress, diet, sleeping rhythm, alcohol intake) and external (sunlight exposure, cigarette smoking, environmental pollution) factors, sebum secretion brutally falls about at the end of the fifth decade in women. This results in skin dryness, lack of brightness, xerosis, roughness, desquamation and, ultimately, pruritus.

Sebum quantities and quality change with time

The size and activity of the sebaceous gland is regulated by a pool of proliferative progenitor cells and a resident population of early differentiated sebocytes that lie beneath the basal sebocyte layer, close to the hair duct. The turnover of the sebaceous gland is slowed down in aged skin, due to a decreased proliferative capacity of the progenitors that regenerate the pool of young sebocytes. This phenomenon follows a transient increase in size (hyperplasia) of the gland, which then contains a high number of progenitor cells and less mature sebocytes. This burst in proliferative activity progressively depletes the stem cell pool and ultimately leads to sebaceous gland atrophy.

A closer look at molecular mechanisms involved in aging of the sebaceous gland have identified age-related alterations molecular mechanisms that include Wnt/β-catenin, c-Myc, aryl hydrocarbon receptor (AhR), and p53 signaling pathways. A dramatic down-regulation of the *PPARg* gene is observed in the aged sebaceous gland, in correlation with loss of differentiation activity of resident cells. β-catenin-dependent transcription is down-regulated by the activation of androgen receptors, leading to maintenance of sebocytes differentiation and sebum production. With the decrease of hormones production, the β-catenin pathway is reactivated, leading to cell and gland hyperplasia and decrease in sebum production. On the external factors side, the TGF-β/Smad pathway is triggered by UVB

irradiation, resulting in downregulation of sebocytes differentiation and inhibition of sebum production.

In conclusion, skin aging is highly dependent on the sebaceous gland physiology, which is controled by genetic factors, neuroendocrine system variation, specific skin diseases and extrinsic factors.

Analyzing sebocyte behaviour to prevent skin aging

In skin aging research, a majority of efforts have been put into characterizing agents able to maintain skin elasticity, reduce wrinkles, maintain skin tone and texture, and preserve skin brightness, based on responses of primary keratinocytes and fibroblasts. Mainly associated with acne disorders, the sebaceous gland has been put aside priorities in the quest for anti-aging agents. However, hormonal replacement therapy is a direct influencer of the sebaceous gland function. It increases sebum levels and improves skin dryness in menopausal women, indicating the importance of considering sebocytes when developing anti-aging formulations.

Phenocell has developed a reliable production line of human sebocytes, using induced pluripotent stem cells (iPSC). The iPSC technology allows the production of unlimited amounts of sebocytes from a variety of ethnicities. As illustrated in Figure 1, the iPSC technology allows the analysis of sebocytes behaviour all along the differentiation process, i.e. stem cells, progenitors, young and fully mature sebocytes.

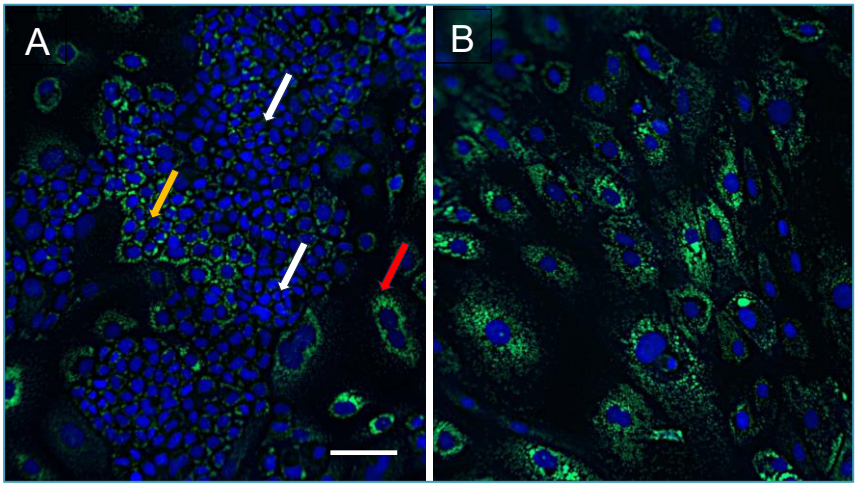


Figure 1. Human iPSC-derived sebocytes at early (A) and late (B) stages of maturation. White arrows show the pool of progenitor cells, the yellow arrow shows early sebocytes, the red arrow shows mature sebocytes charged with lipid vesicles (green dots). The proportion of large, fully mature cells increases with aging of the culture. Scale bar: 50 µM.

Population-specific skin aging

Europeans, Asians, American and African individuals present different characteristics of skin and skin aging. Caucasians have an earlier onset and greater skin wrinkling and sagging signs than other skin types, while in Chinese women wrinkle oinset is elayed by about 10 years compared to Caucasian women. Sebaceous secretion also varies among ethnies. African American and Caucasian women display higher skin dryness than other populations. Investigations on the role of sebum secretion in aging among populations is very limited. PCi-SEB are available in 3 different ethnicities and represent a unique tool to perform aging investigations.

CONTACT

www.phenocell.com

Helene Leménager
helene.lemenager@phenocell.com

Substantiating anti-aging claims with 3D image analysis: a proven and user-friendly solution by Eotech

Edouard Macé - CEO

The signs of aging are for most people undesired and therefore an important field of actions for dermo-cosmetic products. Whatever the skin type and ethnicity, they affect all of us, sooner or later.

However measuring objectively these visible signs is not such an easy matter. Fringe projection is the most accurate way to quantify the skin relief in three dimensions and Eotech has developped a unique experience with this technique in 30 years of activity.

A scientifically robust and accurate system shall include 3 components:

- An accurate 3D scanner with different fields of view, suitable for the related Region Of Interest
- An adjustable and comforable volunteer positionning device
- A user-friendly software guiding beginners as well as experienced users

The key features of 3D scanners are the 2 cameras resolution and the characteristics of the Field Of View. Eotech offers 2 scanners suitable to assess globally the micro-relief of the face: the AEVA-HE² and the EvaFACE.

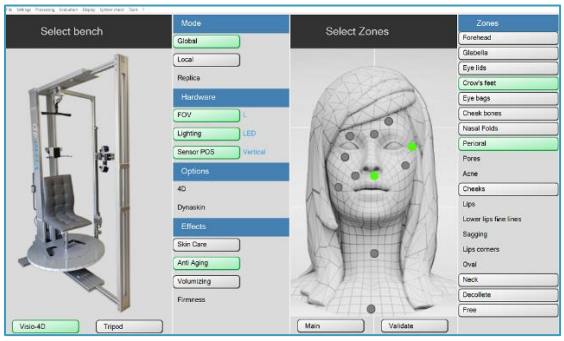
The AEVA-HE² has been developped as a swiss knife of 3D skin imaging. Based on high quality and high stability components, the 2 black & white cameras have been selected for their balance between speed and resolution (5 Mp). They can be fitted with different Fields of View by simply changing objectives. As regards the analysis of wrinkles on the global face, the Large FOV is generally used, offering a diagonal of 250mm, a lateral resolution of 75µm and a vertical resolution of 4µm. In addition, a high-resolution color camera fixed to the AEVA-HE² and LED lighting integrated to the benches allow color texture on the 3D data.

The EvaFACE was later developped to specially address global face 3D analysis at a more affordable cost. Its cameras exhibit a similar resolution and its FOV has a diagonal of 300mm, a lateral resolution of 82µm and a Z resolution of 10µm.

The positionning bench ensures the correct position of the volunteer for an optimal acquisition of the 3D data. Unlike ex vivo measurements, the in vivo requires a lot of attention to reduce any movement, even imperceptible. Any skin deformation around the face must be avoided, reason why Eotech devices rely on earplugs and headrest only. Hence

there is no tension on the skin near to the Region Of Interest. Creating a stress-free environnement for the volunteer is key, as it can generate a light muscle strain on the cheeks and the perioral zone, affecting the reproducibility of the measurement. In that respect, the know-how of the user is an important element to give the volunteer confidence.

Last component of the tryptic, the software is common to all Eotech 3D systems. It allows to easily manage the project creation, the settings, the acquisition of the data and their analysis. For anti-aging claims, the preset ROIs are forehead, glabella, eye lids, crow's feet, eye bags, cheekbones, nasal folds, perioral, cheeks, neck and decollete. One or several can be selected and will be extracted during the analysis step. If an additional ROI needs to be added once the acquisition has been done, it is however possible. Thanks to 2 successive shots, the left and right sides are merged seamless together.



Picture 1

During the 3D data analysis step, the software generates according to the various times:

- the roughness parameters
- the object detection with their number, area, volume and depth
- the topography, and their volume differences in false-colour
- the patterns detection by local curvature

The AEVA software provides several global assessment functions:

- Detection of skin topography elements: texture, pores, fine lines, wrinkles and folds
- Volume and dimensional measurements

Skin relief structure change over age, from fine lines, to wrinkles and to folds. The software allows to rank them according to their depth or to their local cuvatures. They are classified in 3 groups, and different colour can be assigned for illustration purposes. The first one provide a « SkinView » picture while the later is called « Feature Depth Density ».

SkinView in 1 class FDD in 3 classes

SkinView in 1 class FDD in 3 classes

Picture 2

Both approach (by depth or curvatures) is able to demonstrate a product effect but not always in the same extent. Their sensitivity will vary according to the subject age, its density of wrinkles, its ethnicity, etc... This gives an additional solution to the bio-metrology experts to assess anti-aging products afficacy.

CONTACT

Info@eotech.fr

www.eotech-sa.com

New approaches to skin ageing by Complife

Skin aging is a complex and multifactorial biological process. It is essentially the result of two processes: chronological ageing, known as intrinsic ageing, which affects the entire skin surface, and extrinsic ageing, linked to the harmful action of ultraviolet rays, pollution, tobacco, alcohol etc.

Overall, skin ageing can be seen as a loss of skin quality at all levels: wrinkles, skin texture, biomechanical properties, complexion, etc.

Quantifying skin aging changes and characterizing its 3D structure and function in a non-invasive way, is still a challenging area of research, constantly evolving with the development of imaging methods, image analysis software's, new biometrological devices.
Therefore, it is essential to find new approaches to always innovate, to study the effectiveness of the tested cosmetic products.

To discover more about ageing mechanisms Complife Company supports its customers with different approaches: its organization is capable to implement knowledge/exploratory studies to discover more about skin aging signs. As an example, a multi-instrumental, multi centric study has be conducted, involving more than 300 volunteers of all phototypes and with different ethnicities in three different continents: Asia, Europe, and America.

In addition to classical methods to evaluate skin aging, Complife offers the possibility to evaluate skin aging sign with innovative devices like:

- **The Line-field Confocal Optical Coherence Tomography** (LC-OCT) by Damae Medical; a medical imaging technique that uses a light wave to capture three-dimensional images of biological tissues in real time, by combining the principles of confocal reflectance microscopy (RCM) and optical coherence tomography (OCT).This technology allows to explore and analyze the different layers of Skin (SC, epidermis, DEJ, upper dermis) in terms of thickness of the layers, composition (diversification of keratinocytes, undulation of junction, collagen network…), in the context of skin aging.
- **New other prototypes as Underskin**, developed by the team of Pr Hassan Zahouani in LTDS and Central School of Lyon or Easystiff developed by the French startup Biomeca for the measurement of the biomechanical properties of the skin.

To guarantee a cutting-edge service for its customers, Complife also proposes its technical laboratories and panelists to researchers. This gives them the opportunity to test their prototypes on volunteers, under controlled conditions, and possibly to compare/validate them with well-known devices, through Proof of Concept, or real validation studies. **This is a great opportunity that can be offered to Complife customers who can benefit in advance, from these privileged partnerships.**

Complife is also able to carry out clinical studies in the field of medical devices, such as but not limited to injectables, energy based devices, pre and post aesthetic acts, thanks to its network of aesthetic medicine doctors, dermatologists, plastic surgeons and KOL. Its close partnership with external medical centers gives the opportunities to have the access to a large pool of highly compliant volunteers of different age groups and skin phototypes. Because of strong knowledges of standards on medical devices, ISO:14155 and MDR 2017/745 Complife can assist medical devices companies in clinical studies.

For all these reasons Complife is the best partner to help customers to better understand ageing mechanisms and support them in their product's development.

CONTACT

www.complifegroup.com

Info@complifegroup.com

Advances in skin evaluation, measurement techniques and claims
The 2-day seminar of the SGS proderm Academy

Sascha Faust - Senior Sales & Communication Consultant

When developing raw materials and topical end products, it is crucial that studies are conducted directly on the living skin of humans. Without advanced in vivo methods, reliable and trustworthy statements on skin tolerance and efficacy are often impossible to achieve.
The Academy of SGS proderm has invited international experts to give a comprehensive overview of selected methods and technologies that are focusing on in-vivo skin testing and enable the generation of meaningful results in the context of dermatological studies. The seminar 'Advances in Skin Evaluation, Measurement Techniques and Claims', which will take place from 29.2.-1.3.2024 in Hamburg, combines theory with practice. All methods will first be presented in a lecture aimed at conveying basic know-how as well as special characteristics. Afterwards, the technologies will be presented live with hands on, so that the participants of the seminar can directly gain application experience.
"When selecting the methods to be presented, we attached great importance to corresponding to the versatility of dermatological methods," says Stephan Bielfeldt, Course Director of the seminar. In this respect, the seminar program considers long-established and frequently used procedures as well as innovative premium approaches.

The topics at a glance:
- Standard instruments (capacitance, skin elasticity, skin pH)
- In Vivo Confocal Raman Spectroscopy
- Transepidermal Waterloss
- Photographic Techniques
- Line-field Confocal Optical Coherence Tomography
- Skin Profilometry
- Alternative in vivo Sun Protection Measurement (HDRS)
- Image Evaluation and Analysis

Both days of the event will start with a keynote lecture on the science of skin. For this, SGS proderm could win two well-known scientists and experts in dermatological research: Prof. Ehrhardt Proksch (Christian-Albrechts-University Kiel) and Prof. Martina Meinke (Charité, Berlin). In addition, the faculty consists of expert representatives of the different dermatological device manufacturers and scientists from SGS proderm.

The faculty:
- Stephan Bielfeldt | Senior Expert Science & Innovation | SGS proderm
- Dr. Lori Ciortea | Biox Systems
- Gabriel Koeller | Application Engineer | Eotech
- Colombe Lopez | Application Engineer | Damae Medical

- Edouard Macé | CEO | Eotech
- Prof. Martina Meinke | Group Leader Experimental Skin Physiology | Charité Berlin
- Dr. Gerwin Puppels |Managing Director |River D
- Prof. Ehrhardt Proksch | Christian-Albrechts-University Kiel
- Dr. Matthias Seise | Group Leader Development and Technical Services | SGS proderm
- Christiane Uhl | Head Sales | Courage & Khazaka

"We want to make the seminar as attractive as possible for the participants," says Birte Wehr, Seminar Manager at SGS proderm. In addition to a high-quality program content, the event team relies on the centrally located Hotel MADISON, Hamburg as the venue for the event. Here, participants have access to an infrastructure that combines the seminar's core elements of lectures, practical examples, networking, dinner, and accommodation in one place.

The program at a glance:

Day 1 - 29.2.2024		
9:45 Am Keynote Lecture on Skin Science	11:00 am - 2:00 pm Short Lectures on Measurements	2:00 pm - 4:30 pm Practical Demonstrations
Structure and function of skin, including epidermis, dermis, DEJ, SC barrier including lipids, NMF, antimicrobial barrier, papillary and reticular dermis, appendages.	Standard instruments In Vivo Confocal Raman Spectroscopy Transepidermal Waterloss (Aquaflux), 2D Capacitance (Epsilon) Photographic Techniques	

Day 2 - 1.3.2024		
9:00 am Keynote Lecture on Skin Science	10:25 am - 1:00 pm Short Lectures on Measurements	1:00 pm - 3:30 pm Practical Demonstrations
Healthy skin, Aging skin (incl. photoaging), pigmentation, ethnic skin, dry skin, compromised skin conditions.	Line-field Confocal Optical Coherence Tomography Skin Profilometry (AEVA-HE) Alternative Sun Protection Measurement (LED-HDRS) Image Evaluation and Analysis	

CONTACT

SGS Proderm
Sgs-proderm.de

Birte Wehr - Sales contact and Conference coordinator
Bwehr@proderm.de

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International Preclinical & Clinical Testing Symposium

PROGRAM

Clinical Testing

29th of May

Session 1

Cool effect and thermic dynamics of the skin

Session 2

Biomechanical properties: Skin & Hair

Session 3

Repair and well-being: Skin & scalp

Preclinical Testing

30th of May

Session 1

Safety: from toxicology to sensitization

Session 2

What parallel between Cosmetics & Neutraceutical in preclinical evaluation

Session 3

How environmental cultures conditions answer the challenges of in-vitro and ex-vivo assays

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