

Grupo kosmo science

LONGEVITY

GLOBAL TRENDS AND INNOVATION

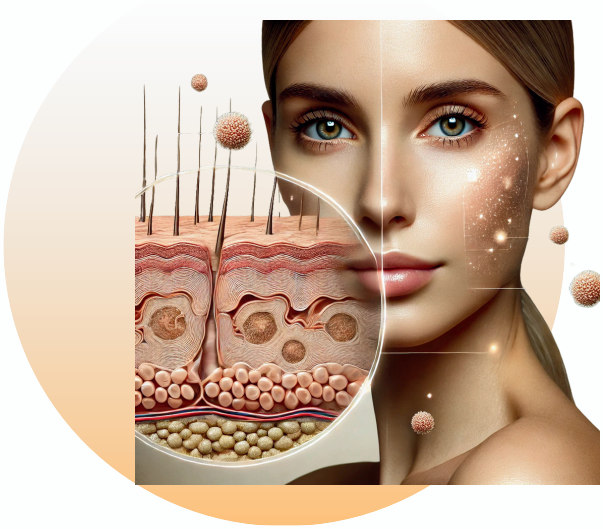
THE NEW FRONTIER OF SKIN SCIENCE

Skin aging is not driven solely by time, but due to progressive decline of biological function.
Even before visible signs appear, cellular alterations disrupt homeostasis, compromise extracellular matrix integrity, and reduce regenerative capacity, impairing tissue resilience.
In this context, skin longevity emerges as a new paradigm that extends beyond aesthetics, focusing on preserving biological skin function over time.

How we translate longevity into applied science:

At Kosmoscience, we investigate skin longevity through an integrated approach, combining molecular, tissue, and clinical analyses to generate robust, actionable,and market-relevant scientific evidence.

Our scientific approach



Skin functionality biomarkers
Metabolic dysregulation; Inflammaging; Oxidative stress/exposome; Cellular senescence

Translational integration: from mechanism to clinical outcomes
Linking biological insights to measurable and perceptible benefits

High-precision instrumental clinical studies
Objective assessment of firmness, elasticity, hydration, and overall performance

AI-driven efficacy
Predictive models and advanced data analysis

Integrated safety & regulatory strategy
Full support for global product development

Advanced models & alternative methods
Cell cultures, reconstructed tissues, and ex vivo human skin

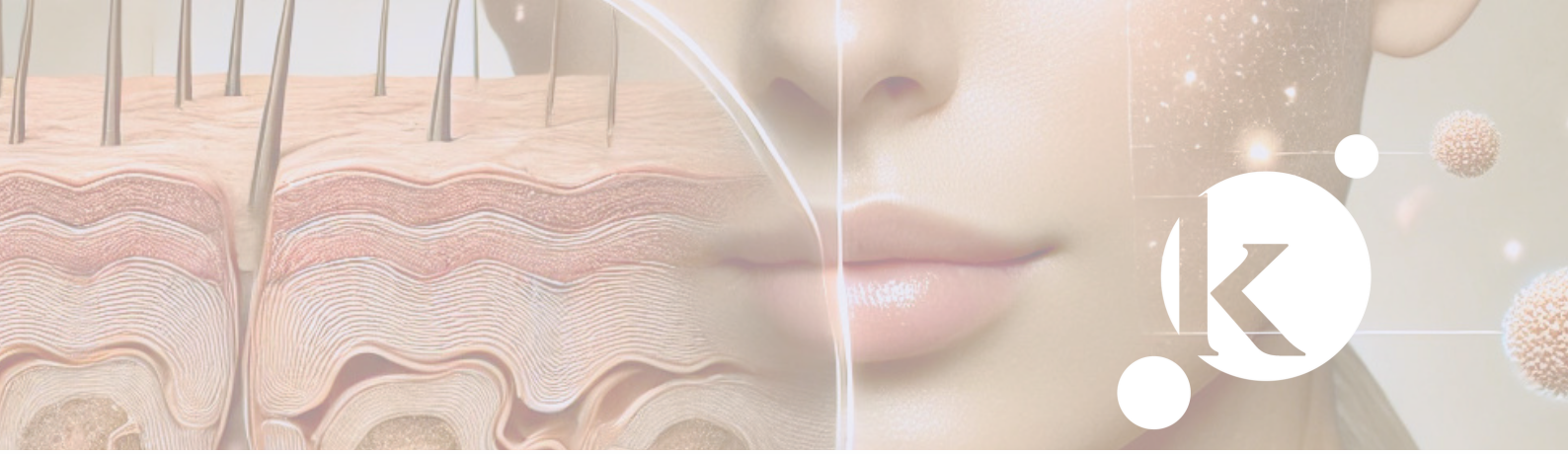
From biological mechanism to clinical evidence: integrated science for proven performance

Skin functionality can be assessed through complementary strategies:

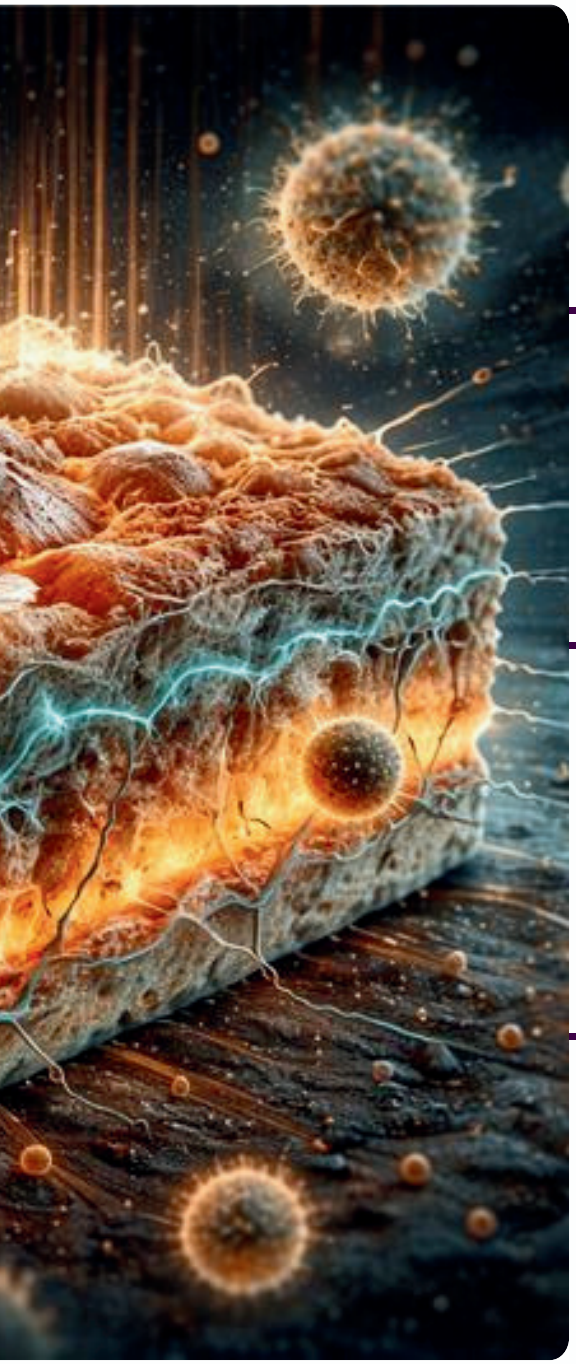
Molecular Platforms
Histological and Cellular Platforms
Biochemical Spectrophotometric Platforms

All translated into measurable and quantifiable parameters:

Elasticity
Firmness
Dermal density
Texture and radiance



THE BIOLOGICAL PILLARS OF SKIN LONGEVITY
An integrated approach based on interdependent mechanisms:



METABOLIC DYSREGULATION

Changes in cellular metabolism impair energy production and promote progressive structural modifications in the skin, impacting the biological functionality of the tissue.

Biological impacts: Tissue stiffness • Reduced elasticity • Altered dermal homeostasis

Scientific assessments / Biomarkers:
AGEs • Mitochondrial function • SIRT1 • SIRT3 • FOXO3 • mTOR

INFLAMMAGING

Chronic low-grade inflammation accelerates skin aging and reduces the skin's adaptive capacity over time.

Biological impacts: Reduced resilience • Texture alteration • Skin sensitivity

Scientific assessments / Biomarkers:
IL-1β • IL-6 • TNF-α • NLRP3

OXIDATIVE STRESS & EXPOSOME

Environmental factors such as UV radiation, pollution, and visible ligth promote cumulative oxidative damage and compromise skin structural integrity.

Biological impacts: Cellular damage • Structural impairment • Reduced skin functionality

Scientific assessments / Biomarkers:
ROS • Lipid peroxidation • NRF2 • NQO1 • γH2AX • CPD • 6,4PP

CELLULAR SENESCENCE & EPIGENETIC REGULATION

The accumulation of senescent cells reduces regenerative capacity and contributes to the progressive degradation of the skin.

Biological impacts: Reduced dermal density • Loss of firmness • Structural alteration

Scientific assessments / Biomarkers: p16 • p21 • p53 • β-gal • Senescence-Associated Secretory Phenotype (SASP) • miRNAs (e.g., miR-34a)

Because true skin longevity is not about delaying aging - it is about preserving biological performance over time.

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