

Zurko Research joins the care of the exposome



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REDEFINING THE ANTI-AGING CONCEPT: TREATMENT OR PREVENTION?

Several internal factors affect our appearance and natural aging process (mainly genetic factors) in our skin. It should be noted, that recent scientific publications establish a genetic association between the *MC1R* gene and the age shown in your face.

The *MC1R* gene codifies a protein which alters the melanocortin receptor, and intervenes in the pigmentation of the skin and hair. This is why recent studies have found that for example redhead people tend to appear up to two years younger.

At the same time, there is a strong correlation between certain external factors and how they act by modifying, in positive and

in negative, the age of our skin. For example, we can highlight factors such as the intense and prolonged (over time) sunlight exposure, which moves forward the biological clock of our skin an average of four years. Talking about tobacco consumption, it ages our skin on average in two years more. On the other hand, a healthy hydrated skin, as well as a good oral hygiene appearance can make us look two years younger.

There are 7 principal external factors that affects our genome (solar radiation, pollution, temperature, nutrition, stress, lack of sleep and cosmetics use). When these factors alter our appearance and our biological clock is known as EXPOSOME.

Regarding solar radiation, several studies have shown that either visible light as UV radiation impact our skin. Both induce the degradation of the dermal matrix, modify the lipid composition of the outermost layer of the epidermis and modulate the pigmentation of the skin.

There is also a proven relationship between environmental pollution and skin aging. The more exposure to small particles, nitrogen dioxide levels and higher levels of ozone, increases the number of spots on the skin and the formation of wrinkles.

Tobacco damages the formation of fibroblasts and leads to their senescence. Some studies have shown that tobacco induces oxidative stress harm and inhibits the body's antioxidant defense, which may be involved in the aging process.

Likewise, a diet rich in antioxidants as well as inhibition of an excessive intake of alcohol can delay the aging effects. It has been proven that a rich consumption of vegetables, olive oil and legumes seem to protect against actinic skin damages, however, a diet rich in meat and fat food and sugar seems to be harmful for our skin and thus accelerate the appearance of wrinkles.

Some investigations support that stress induces a decline in epidermal permeability and a deterioration of the barrier function and its recovery. Concerning the lack of sleep, some studies show that sleeping less than five hours per night is associated with more signs of aging and a reduction in the barrier function of the epidermis.

Moreover, it is important to know that the term know as epigenetics refers to the interaction between the exposome and our genetics and how they affect skin aging.



As a result, epigenetics plays a fundamental role since it analyzes how the environment and external factors interact with our genes.

For these reasons, Zurko Research has been following the new trend of cosmetic products focused on the prevention of the exposome, the external factors to which we daily expose ourselves. They influence directly our cutaneous aging and the relations with our biological clock. This interesting and welcome trend in the cosmetic sector has to be considered as well when talking about testing of products' efficacy and safety. New and innovative products normally also require new and innovative testing techniques and methods.

ZURKO RESEARCH is a center for clinical and *in vitro* evaluation, we test the safety and efficacy of cosmetic and cosmeceutical products, as well as medical devices.

Since the beginning (2015), we are committed to the five fundamental principles that drive our business model:

1. Very personalized service
2. Fluent communication with our clients
3. High quality testing performance
4. Fast response
5. Tailor-made solutions for innovative claims and border-line products

In this manner, Zurko Research provides a wide range of cosmetics testing services, with the support of HD images study and high-performance statistics analysis. Offering safety studies with *in vivo* and *in vitro* testing, and efficacy studies with *in vitro* testing.

Concerning tests which proof claims with reliable results of products that fight against all the external factors to which we daily expose ourselves we can highlight among other:

- Evaluations of the antioxidant potential aspects-
- Antiaging prevention: monitoring from the spots, wrinkles and firmness approach.
- Sun protection (SPF, UVA, Water resistance, sweat resistance, sand resistance, and towel friction resistance).
- Antipollution cosmetics.

In Zurko we try to stay up-to-date on the latest cosmetic testing topics.

We look forward to seeing you at booth P112 of In Cosmetics Paris 2019

