



Biocosmethic and Genel joined forces to develop a new approach for active ingredient positioning, ExoGEN, which reveals the ability of an active ingredient to act remotely on its target via exosomal communication.

The skin is a complex organ composed of a variety of cells -keratinocytes, melanocytes, fibroblasts, immune cells, and adipocytes- that help maintain homeostasis by influencing one another's behaviour. One important mediator of cellular communication is the exosomes, extracellular vesicles derived and released from a donor cell that convey a message to recipient cells. Studies have shown that this message is mostly constituted of microRNAs, a short sequence of nucleic acid responsible for the gene expression inhibition. A single microRNA can regulate over a thousand of genes. Consequently, miRNAs have a high ability to modulate cellular functions and represent a great interest for the development of future active ingredients in skin care.

The standard studies, co-culture cells or stimulation with conditioned medium, didn't manage to isolate the actual exosomal message. **Genel** and **Biocosmethic** collaborated to conceive a new method, the **ExoGEN**, to extract and purify the exosomes from a donor cell, after its treatment with an active ingredient. The collected exosomes are used to stimulate any recipient cell.

ExoGen method has been successfully applied to Biocosmethic's active ingredient, EXOSKIN®. Indeed, we demonstrated that EXOSKIN® is able to suppress inflammation in keratinocytes and to modify their exosomal content, by reducing specific microRNA expression. Fibroblasts stimulated by these modified exosomes increase their collagen synthesis and restore extra-cellular matrix. ExoGEN method has brought new insights on the relationship between chronic inflammation and loss of extra-cellular matrix responsible for wrinkle and line formation.

A poster describing the methods and the results was shortlisted among the top 10 at International Federation of Societies of Cosmetic Chemists (IFSCC) in 2016.

ExoGEN method can be applied to any cell type and pathways.

This method promises to deliver novel claims for dermo-cosmetic active ingredients through its unique approach.



About Biocosmethic:



Biocosmethic® is an active ingredient's supplier for cosmetic industries.

Our expertise is mainly linked to plant extraction and encapsulation areas for which we guarantee the quality and the traceability.

Biocosmethic® products affirm our conception of a business relationship both ethical and profitable for all. We select, help and develop products with our industrial partners who share our vision of the World. We commit all together to the maintenance of the biodiversity, the protection of the environment and the respect of human rights.

In addition, our technical expertise on our ingredients and our knowledge of the cosmetic market allow us to support you during your projects, from marketing concepts research to formulation development.

About GENEL:



GENEL is a biotech providing Healthcare Companies with innovative services and products to enhance drug development and reduce the time-to-market of new cares.

GENEL proposes a new approach using 3D cellular models and primary cells to highlight active ingredient effects on its gene target.

Our unique expertise allows us to offer an innovative phenotypic screening using active compounds: small molecules, siRNA, miRNA, active ingredients etc... This methodology combines bio-screening, new imaging system and bioinformatics to guarantee effective, fast, reliable, and directly useable results.

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