

**« Endermologie treatment influence on skin cells functions:  
Evaluation with the DNA chips technology”**

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Cell signalling is the process that governs basic cellular activities and coordinates cell actions. The ability of cells to perceive and correctly respond to their microenvironment is the basis of development, tissue repair, and immunity as well as normal tissue homeostasis. Errors in cellular information processing are responsible for diseases. In physiological conditions, as in pathological conditions, mechanical stress is able to induce stimulation of various cells type (keratinocytes, fibroblasts, endothelial cells) and play a role in the regulation of homeostasis and tissue remodelling (cell signalling).

The LPG Technique (LPG Systems, Valence – France), called Endermologie in its aesthetic applications, is a non-invasive technique which, by creating a skin fold, mobilizes the cutaneous tissue held between 2 motorized rollers. Forces applied are biologically responsible for a mechanical stress condition to which are submitted all the anatomical structures constituting skin and subcutaneous tissue. Clinical efficacy of the LPG Technique in aesthetic and therapeutic fields is linked with its dermatrophic and circulatory properties (1-6) and also with its incidence on the lipolytic responsiveness of adipocytes (7).

From those observations, a study was carried out to evaluate, by means of the DNA chips technology, the effect of mechanical stress induced by the LPG Technique on genes expression.

Results suggest a beneficial role of the LPG Technique in terms of a better architecture of our body envelope and a better cellular communication, 2 important characteristics of a healthy organism. This basic research allows for a better knowledge of the LPG Technique mechanism of action and reveals new perspectives for treatment of cutaneous and subcutaneous tissue.

**References**

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