IN VITRO TESTS

We offer a broad range of *in vitro* studies, backed by many years of experience, state-of-the-art instruments including modern cell culture equipment. Not only human skin cell cultures (e.g. fibroblasts, melanocytes, keratinocytes) and organotypic skin models (e.g. by SkinEthic, MatTek) but also skin samples obtained from punch biopsies or the suction blister method can be subjected to a broad range of *in vitro* analyses:

- Cytotoxicity testing (NR test, MTT test, WST1 test)
- Phototoxicity testing (NR test, MTT test, WST1 test)
- Cellular toxicity and apoptosis
- Cell proliferation and differentiation (number of proliferating cells within the epidermis, immunohistological staining of the cell nuclei of proliferating cells with antibody Ki67)

*Estimation of the number of proliferating cells in the epidermis by histological analysis (nuclei staining of proliferating cells with Ki67 monoclonal antibody)*

- Cell metabolism (e.g. ATP content)
- Gene expression
- ELISA (e.g. collagen, fibrillin, hyaluronic acid, elastin, 8-isoprostone, carbonyl proteins, metalloproteinas, cytokines)
- Protein synthesis
- Antioxidant testing (8-isoprostone as a marker for lipid peroxidation, carbonyl proteins as a marker for protein oxidation)

*Immunohistological analyses of UV-induced DNA damage *in vitro* (thymine dimers, 8-oxo-guanine)*
- Histological and immunohistological analyses
- Pigmentation and whitening (effect on melanogenesis)
- Anti-inflammatory effects (e.g. secretion of inflammatory cytokines)
- Sun protection
- Differential gene expression via Real Time Quantitative PCR

Please contact us for further information, consultation or a detailed proposal.