ConfoScan

Quantification and Analysis of Confocal Images

Quantification for the quantification of Laser Confocal acquisitions (Stacks or Mosiacs). Both of experts and routine users For a cellular and tissular quantification of the skin components from the VivaScope 1500 (Standard or Trilaser) acquisitions.

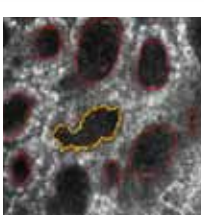
Three levels for analysis

- **Raw Tools**
  Using standard processing to study and quantify different elements into the skin ("dark objects" corresponding to the papillae, texture of the fibers network, Basal, inflammatory or pagetoïds cells, Melanin, etc)

- **Standard Applications**
  Corresponding to the predefined and calibrated processing (Epidermis cells, Pigmentation, Lentigo…)

- **Customized Applications**
  Defined by the user for a dedicated analysis (For a special study or topics – combination of different tools for dedicated segmentation of structures into the skin)

- **Reconstruction of "Z" slices**
  For dimensional measurement (Height of papilla, thickness of Stratum Corneum epidermis



Optimisation of the analysis process

- Management of raw data (sample of subjects/Patients; Lesions/Locations; Stacks/Blocks)
- Creation of a study for analysis directly from the raw exportation from VivaScan
- Analysis on all sample size (from 1 to N subjects)
- Possibility to apply defined parameters at the Baseline to all times of a kinetic
- Selection of continuous or independent images into a VivaStack or VivaBlock.
- Definition of a Region Of Interest automatically applied for all selected images
- Exportation of all quantitative parameters of the study to an Excel sheet (Microsoft® Corp.)

EXAMPLE OF DEFAULT APPLICATIONS

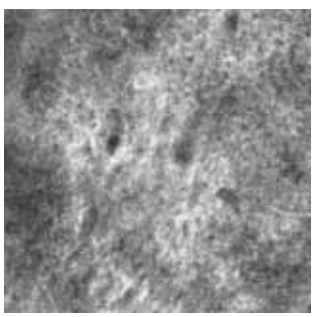
- Pigmentation in lentigo (basal cells melanin)
- Density, size, shape of granular and spinous layer cells
- Density, size, shape of papilla
- Status of the reticular dermis (Elastosis – Fragmentation rate) etc.

MAVIG VivaScope

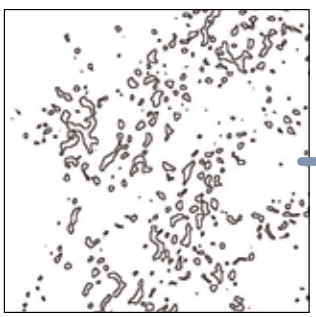
Examples for the Treatment with Cosmetic Products

Anti-aging effect down to the superficial dermis

Before treatment

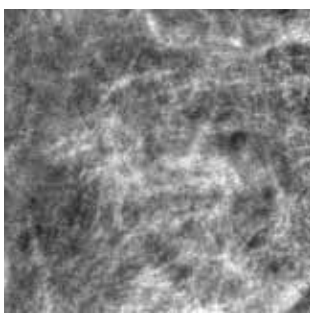


Superficial dermis before treatment, confocal image 500 x 500 µm

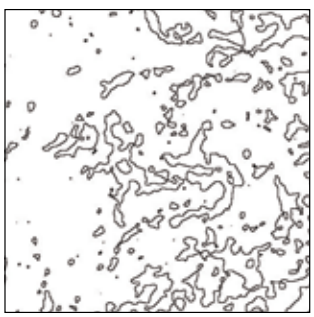


Texture of superficial dermis, processed with ConfoScan

After treatment



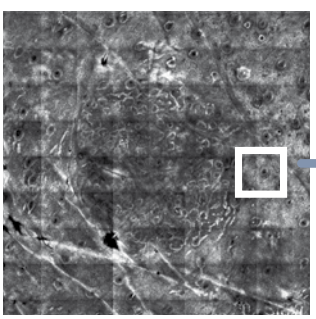
Superficial dermis after 56 days of treatment; confocal image 500 x 500 µm



Texture of superficial dermis, processed with ConfoScan

Decrease of Cutaneous Pigmentation Spots

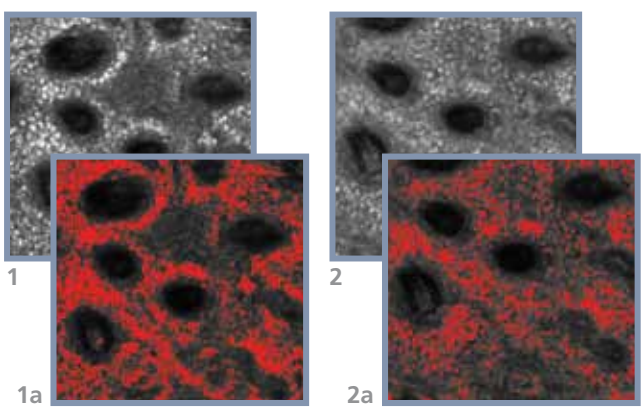
Macroscopic image with VivaCam® of pigmented spot 10 x 10 mm



VivaBlock® 5 x 5 mm of the same spot

Before treatment

After treatment

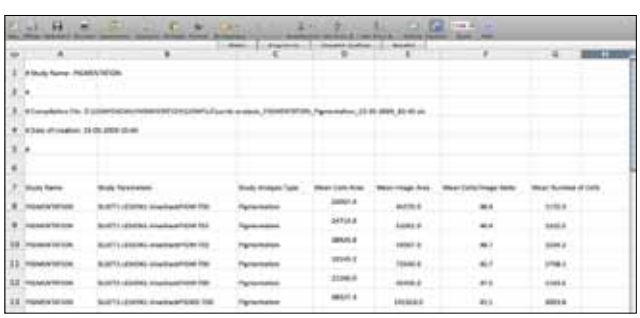


1 *Pigmentation before treatment, confocal image 500 x 500 µm*

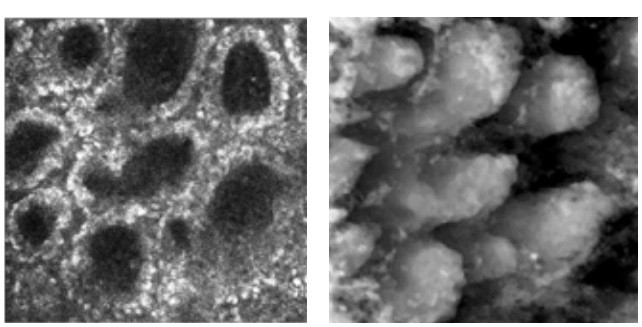
1a *Detection of melanin before treatment, processed with ConfoScan*

2 *Pigmentation after 56 days of treatment, confocal image 500 x 500 µm of the same area*

2a *Detection of melanin after 56 days of treatment, processed with ConfoScan*



For both analysis, melanin detection is obtained by automatic analysis of a series of images corresponding to the whole basal layer. All results are collected in an Excel file so that the decrease of pigmentation can be quantified (mean and total values of cells containing melanin).



Reconstruction in 2D and 3D of the papillar dermis in order to quantify the number, the high, the morphology and the density of the papillae.

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