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ABSTRACT

Non invasive IN VIVO methods are presented to assess age dependent changes in the different layers of the skin.

Measurement of epidermal thickness parameters and papillary index by use of confocal reflectance microscopy are explained as well as the count of capillary loops, a parameter to assess age dependent skin nutrition.

To assess photo aging of the upper dermis, 22 MHz ultrasound measurement is described. Thickness and intensity of the sub epidermal low echogenic band is a suitable parameter for that. It can be measured in ultrasound B-images by help of image analysis. With increasing age the chemical composition of the skin barrier changes. The depletion of NMF components and the reduced repair capacity of the barrier are well documented.

In vivo confocal Raman spectroscopy can be used to quantify these age related processes. The described endpoints are all well established in literature and therefore suitable for the claim support of anti aging cosmetics.