

(原 著)

マイクロ波領域での誘電緩和法を用いた角質層水分量の 新しい計測法

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A New Method of Measuring Stratum Corneum Water Content by Dielectric Analysis in Microwave Region

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Abstract

A new microwave dielectric analysis procedure designed for the determination of free water content in stratum corneum was developed. Protein-water mixture was analyzed with the method, and the procedure was confirmed to have a linear response to the free water content of the sample. The measured free water content of human skin changed reasonably in accordance with the humidity or the position of the body. The procedure made it possible to discuss drying rate constant of skin quantitatively. From the results above, the procedure was proven to be an effective tool for skin research.

Key words: time domain reflectometry, dielectric analysis, water, measurement, stratum corneum.