Melanin Measurement

Reflectance measurement of skin haemoglobin and melanin

Supportable Claims
• Estimation of skin melanin
• Assessment of changes after treatment
• Depigmentation studies
• Skin Evenness
• After sun protection claims
• Soothing effects

Principle
The Mexameter® is a diffuse reflectance instrument specifically designed for measurements at 3 specific wavelengths. Two of these are appropriate for Melanin measurement. A photodetector is used for analysis.

Test Subject Recruitment
All Fitzpatrick Skin Types and Ethnic groups can be recruited, according to the study objective.

Measurement
Measurements take place in a darkened room. Diffuse and scattered light is measured. Multiple readings are taken and the mean determined. Melanin pigments are discriminated by the two specific wavelengths.

The measurement scale for Melanin ranges from 1 to 100 for Type I skin, up to 450 to 999 for Type IV. Both irritating effects and soothing effects can be quantified.

Assessment of Change
The sensitivity of the instrument is high and very small changes can be observed.

Additional Values
The Mexameter® simultaneously measures the Erythema and these values can be quantified according to the following scale.

- No erythema = 0 - 170
- Minimal erythema = 170 to 330
- Diffuse Redness = 330 to 450
- High Erythema = 450 to 570
- Extreme Erythema > 570

References
1. C. Galzote, R. Estanislao, M.O. Suero, A. Khaiat, M.I. Mangubat, R. Moideen, H. Tagami, X. Wang; Characterization of facial skin of various Asian populations through visual and non-invasive instrumental evaluations: influence of age and skincare habits; Skin Research and Technology 2013;19; 454-465