

〈講 演〉

第46回日本香粧品学会(2021)・会頭講演

環境に対する皮膚の応答—*in vitro* 知見を中心に—

正木 仁*

Behavior of the Skin Responding to Changes of Foreign Environmental Stimuli

Hitoshi MASAKI*

Abstract

Skin located on the outside of the human body functions as a barrier against foreign environmental stimuli. Thus, considering the functions of skin, it responds by adapting to stresses from the environment in order to maintain homeostasis of the body. As an example, skin pigmentation caused by sun exposure is one of the skin's responses to avoid damage caused by UV light. However, foreign environmental stimuli beyond the ability of the skin to adapt to can lead to worse conditions. Most foreign environmental stimuli generate oxidative stress in skin resident cells due to the unexpected production of reactive oxygen species (ROS). In other words, adaptations to foreign environmental stimuli might be to overcome the damage initiated by oxidative stress. Recently, it was proposed that the Exposome, which is the sum of factors the body is exposed to endogenously and exogenously from birth until death, initiates and promotes skin aging. Therefore, it is thought that optimal adaptation to environmental changes will maintain healthy skin and prevent skin aging. I introduce evidence that foreign environmental stimuli such as sunlight and low humidity are generators of ROS in the skin based on the results of our *in vitro* study.

Key words: UV, blue light, infrared light, low humidity, reactive oxygen species.