

〈シンポジウム〉
(紫外線と皮膚を考える)

紫 外 線 と NO

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Nitric Oxide and Ultraviolet-Irradiation

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Abstract

The gaseous small molecular nitric oxide (NO) is an important biologic mediator with physiologic and patho-physiologic roles in nearly every organ system. NO is generated in many cells by specific nitric oxide synthases (NOS) that metabolize arginine and molecular oxygen to citrulline and NO. Besides its function as a diffusible messenger in the vasculature and in neurons, NO also plays an important role in innate immunity and inflammation. Recent study has allowed the identification of the NOS pathway in several cell types in the skin, including keratinocytes, melanocytes, Langerhans cells, fibroblasts, and endothelial cells. The NOS pathway in these cells has provided important insight into the molecular mechanisms of NO underlying regulatory and homeostatic functions of the skin. Many studies also point to perturbations or defects in the signaling cascade of NO and reactive nitrogen intermediates as key factors in skin disease pathogenesis. The place of NO in the skin has recently become the focus of much attention and the demonstrable and potential roles of NO in the skin and the relation to ultraviolet irradiation or skin disease are summarized here.

Key words: nitric oxide, nitric oxide synthase, ultraviolet-irradiation, skin.