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Nota di contenuto	Preface -- The skin lipidome under environmental stress – Technological platforms, molecular pathways and translational opportunities -- Squalene and skin barrier function: From molecular target to biomarker of environmental exposure -- Sunlight-induced DNA damage: molecular mechanisms and photoprotection strategies -- Urocanic Acid and Skin Photodamage: New Light on an Old Chromophore -- The Skin Extracellular Matrix as a Target of Environmental Exposure: Molecular Mechanisms, Prevention and Repair -- Nitric Oxide Derivatives and Skin Environmental Exposure to light: From Molecular Pathways to Therapeutic Opportunities -- Melanocortin 1 receptor (MC1R) as a global regulator of cutaneous UV responses: molecular interactions and opportunities for melanoma prevention -- The Cutaneous Melanocyte as a Target of Environmental Stressors: Molecular Mechanisms and Opportunities -- The Role of Epidermal p38 Signaling in Solar UV Radiation-induced Inflammation: Molecular Pathways and Preventive Opportunities -- UV-Induced Chemokines as Emerging Targets for Skin Cancer Photochemoprevention -- TLR3 and Inflammatory Skin Diseases: From Environmental Factors to Molecular Opportunities -- Sirtuins and stress response in skin cancer, aging, and barrier function -- Cutaneous Opioid Receptors and Stress Responses: Molecular Interactions and Opportunities for Therapeutic Intervention

-- Regulation of Cutaneous Stress Response Pathways by the Circadian Clock: From Molecular Pathways to Therapeutic Opportunities -- Endocannabinoids and Skin Barrier Function: Molecular Pathways and Therapeutic Opportunities -- The aryl hydrocarbon receptor (AhR) as an environmental stress sensor and regulator of skin barrier function: Molecular mechanisms and therapeutic opportunities -- Biological cell protection by natural compounds, a second line of defense against solar radiation -- The Cutaneous Microbiota as a Determinant of Skin Barrier Function: Molecular Interactions and Therapeutic Opportunities -- Sensing Environmental Factors: The Emerging Role of Receptors in Epidermal Homeostasis and Whole-Body Health -- The Cutaneous Circadian Clock as a Determinant of Environmental Vulnerability: Molecular Pathways and Chrono-pharmacological Opportunities -- Psychological stress as a determinant of skin barrier function: Immunological pathways and therapeutic opportunities -- Index.

Sommario/riassunto

It is now established that the interplay between environmental exposure and molecular stress response pathways plays a critical role in skin health and disease, and a refined mechanistic understanding of this phenomenon at the molecular level promises to open new avenues for targeted therapeutic strategies that may benefit patients in the near future. Coauthored by recognized international leaders in molecular and clinical biomedical sciences, this novel book provides a comprehensive perspective on environmental exposure-induced skin stress response pathways. Focusing on molecular opportunities targeting skin stress response pathways that are involved in cutaneous barrier function and repair, antimicrobial defense, immune regulation, inflammation, and malignant progression, the book is essential reading for students, basic researchers, and biomedical health care professionals interested in skin health and disease with implications for small molecule therapeutic development.