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Nota di contenuto	1 Oxidative Stress in Cornea -- 2 Corneal Degenerations -- 3 Corneal Epithelial Nuclear Ferritin and its Transporter Ferritoid Afford Unique Protection to DNA from U.V. Light and Reactive Oxygen Species -- 4 Excitatory Amino Acid Transporters, Xc- Antiporter, Glutamyl Transpeptidase, Glutamine Synthetase Activity and Glutathione in Human Corneal Epithelial Cells -- 5 Transforming Growth Factor – 3 Regulates Cell Metabolism in Corneal Keratocytes and Fibroblasts -- 6 Corneal Stem Cells: a Source of Cell Renewal with Therapeutic Potential -- 7 New Agents for Treating Dry Eye Syndrome -- 8 Investigating Carcinine Transport and the Expression Profile of Transporter Genes in Human Corneal Epithelial Cells -- 9 Basic Review of the Oxidative Stress Role in Age-Related Cataractogenesis -- 10 The Human Lens: A living Biometric Indicator of Health Status and Successful Aging -- 11 Oxidative Stress in Lens -- 12 Protein Serine/Threonine Phosphatases-1 and –2A in Lens Development and Pathogenesis -- 13 Proteases in Lens and Cataract -- 14 Photosensitized Oxidation of Lens Proteins Exposed to UVA-Visible Light at Low Oxygen Concentration: Its Effect on the Proteasome System -- 15 p53 Regulates Developmental Apoptosis and Gene Expression to Modulate Lens Differentiation -- 16

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Sommario/riassunto

This comprehensive volume presents data describing the role of oxidative stress in anterior eye disease. The content is divided into three logical parts: basic science of the cornea, basic science of the lens, and clinical practices. The first two parts include eighteen chapters that discuss topics ranging from oxidative stress and dry eye disease, endogenous protection of corneal cells against oxidative damage, the therapeutic potential of corneal stem cells, etiology of cataracts and preventive measures, corneal degeneration through oxidative stress and cataract formation, and function and dysregulation of ion channels and transporters in the ocular lens, among others. The concluding part is comprised of four chapters devoted to advancements in corneal surgery, cataract and diabetic retinopathy, the clinical treatment of cataracts including traumatic cataracts, and cataracts in the pediatric age group. Studies on the Cornea and Lens is an essential addition to the library or department of physicians and scientists who treat or research these ocular conditions, particularly cataracts. It is also a key resource for cell biologists studying oxidative stress. This book is an authoritative contribution to Springer’s Oxidative Stress in Applied Basic Research and Clinical Practice series.