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References; 3 The role of NF-kB in central tolerance; 3.1 Introduction; 3.2 Canonical and alternative NF-kB pathways; 3.3 Thymic stroma and central tolerance; 3.4 NF-kB and regulatory T cell development; 3.5 NF-kB and thymocyte positive and negative selection
3.6 Conclusions and perspectives3.7 Acknowledgement; References; 4 The role of Act1 in the control of autoimmunity; 4.1 Introduction; 4.2 Autoimmunity and autoimmune mouse models; 4.3 Molecular mechanisms of autoimmunity; 4.4 Act1: a modulator of autoimmunity; 4.5 Conclusions; References; 5 Regulation of T cell anergy and escape from regulatory T cell suppression by Cbl-b; 5.1 Introduction; 5.2 Mechanisms of T cell tolerance induction; 5.3 Molecular establishment of T cell anergy; 5.4 Ubiquitin E3 ligases in T cell tolerance; 5.5 Molecular function and regulation of Cbl-b
5.6 Physiological relevance of Cbl-b5.7 The role of Cbl-b in T cell tolerance; 5.8 Deregulation of Cbl-b in disease; 5.9 Therapeutic potential of Cbl-b in tumour immunity; 5.10 Implications for autoimmune disease; References; 6 Indoleamine 2,3-dioxygenase: transcriptional regulation and autoimmunity; 6.1 Introduction; 6.2 L-Trp degradation along the kynurenine pathway and immune functions of IDO; 6.3 IDO immunobiology and therapeutic intervention; 6.4 Transcriptional regulation of the IDO-encoding gene; 6.5 Impaired IDO activity and loss of tolerance in autoimmune diseases
6.6 IDO-based therapies for autoimmune disease6.7 Acknowledgement; References; PART II Stress Responses that Break Immune Silence; 7 Chromatin modifications, oxidative stress and nucleosome autoantibodies; 7.1 Introduction; 7.2 Nucleosome and SLE; 7.3 Epigenetics and SLE; 7.4 Oxidative stress in SLE: definition and mechanisms; 7.5 Oxidative stress, epigenetic alterations and nucleosome immunogenicity; 7.6 Conclusion; 7.7 Acknowledgements; References; 8 Stress, epigenetics and thyroid autoimmunity; 8.1 Introduction; 8.2 The Th1/Th2 balance in immune-response regulation
8.3 Stress hormones and the Th1/Th2 balance

Sommario/riassunto

The role of epigenetic mechanisms in autoimmune disease is only now starting to become clear. Understanding these mechanisms, their effect on cellular function and the role of environmental factors is vital to determining how to manage these often debilitating and fatal diseases. Drawing on the research of leading experts, this book provides a valuable insight into this important new area of autoimmunity research and a clear, up-to-date view on the major advances in the field. Specific coverage includes:How highly developed epigenetic mechanisms are involved in several aspec