

1. Record Nr.	UNINA9910986128903321
Autore	Passos Geraldo A
Titolo	Thymus Transcriptome and Cell Biology // edited by Geraldo A. Passos, Daniella Arêas Mendes-da-Cruz, Wilson Savino
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	9783031779213
Edizione	[2nd ed. 2025.]
Descrizione fisica	1 online resource (488 pages)
Collana	Advances in Experimental Medicine and Biology, , 2214-8019 ; ; 1471
Altri autori (Persone)	Mendes-da-CruzDaniella Arêas SavinoW (Wilson)
Disciplina	570.285 570.113
Soggetti	Bioinformatics Medical genetics Endocrinology Cytology Computational and Systems Biology Medical Genetics Cell Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1 - History of the Thymus -- Chapter 2 - Thymus Ontogeny and Development -- Chapter 3 -The ins and outs of thymic epithelial -- Chapter 4 - From T-Lineage Specification to Intrathymic Maturation -- Chapter 5 - Intrathymic cell migration -- Chapter 6 -Thymic crosstalk -- Chapter 7 - The Autoimmune Regulator (AIRE) Gene -- Chapter 8 - Aire mutations and Autoimmune Diseases -- Chapter 9 - The thymus as a mirror -- Chapter 10 -The CRISPR-Cas9 system -- Chapter 11 -Age-related thymic involution -- Chapter 12 - T-cell Recovery After Autologous.
Sommario/riassunto	This volume focuses on a challenging field in biomedicine: the genetic control of central immune tolerance. The thymus gland is a lymphoid organ implicated in T cells' maturation, differentiation, and selection. Its function is associated with the control of immune homeostasis in the body, establishing central immune tolerance, and preventing the

onset of autoimmune diseases. This book focuses on thymus development, their cellular components and their respective function, and the peculiar gene expression profiling (transcriptome) found in the medullary thymic epithelial cells (mTECs) that are implicated in the self-representation in the thymus and the Autoimmune regulator (Aire) gene. Chapters also explore the mutations in the Aire gene, manifestation of autoimmune diseases, and the role of cell-cell interactions within the thymus with implications in the negative selection (elimination) of nascent autoreactive T cells in preventing aggressive autoimmunity. This new edition includes two new chapters devoted to the genome editing of the Aire gene through Crispr-Cas9 system, and thymic involution. All chapters have been updated to reflect the latest research in the field. .
