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| Soggetti | Embryology<br>Molecular genetics<br>Cytology - Technique<br>Cytology<br>Reproductive health<br>Molecular Genetics<br>Cytological Techniques<br>Cell Biology<br>Reproductive Medicine |
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| Nota di contenuto | Part A. Oocyte interactions with environment -- 1 Exogenous molecules and organelles delivery in oogenesis -- 2 Control of mammalian oocyte development by interactions with the maternal follicular environment -- 3 Transovarial Transmission of Symbionts in Insects -- Part B. Oocyte polarity: Molecular and organellar aspects and developmental consequences -- 4 Acquisition of Oocyte Polarity -- 5 The pole (germ) plasm in insect oocytes -- 6 Multiple functions of the DEAD-box helicase Vasa in Drosophila oogenesis -- 7 The role of microtubule motors in mRNA localization and patterning within the Drosophila oocyte -- 8 Phosphoinositides and cell polarity in the Drosophila egg chamber -- 9 RNA localization in the vertebrate oocyte: establishment of oocyte polarity and localized mRNA assemblages -- Part C. Epigenetic, transcriptional and translational regulation in oocytes -- 10 DNA methyltransferases in mammalian oocytes -- 11 Accumulation of |

chromatin remodelling enzyme and histone transcripts in bovineoocytes -- 12 Translational regulation in the mammalian oocyte -- 13 Regulation of translationally repressed mRNAs in zebrafish and mouse oocytes -- 14 Switches in Dicer activity during oogenesis and early development -- Part D. Oocyte specific functions of ubiquitous molecules and organelles -- 15 The regulation and function of cohesin and condensin in mammalian oocytes and spermatocytes -- 16 Supply and demand of energy in the oocyte and the role of mitochondria -- 17 Functions of Vitellogenin in Eggs -- 18 Lipids in Insect Oocytes: From the Storage Pathways to Their Multiple Functions -- 19 Parthenogenesis in Insects: the centriole renaissance -- Part E. Maternal factors: origin, evolution and application in genetic engineering -- 20 The origin and evolution of maternal genes -- 21 Non-inheritable maternal factors useful for genetic manipulation in mammals.

Sommario/riassunto

This book combines the most recent knowledge on the maternal, i.e. oocyte/egg-specific, molecules and processes. The volume covers the most recent advances in a plethora of subjects such as: maternal transfer of immunity, localized RNAs functions and mechanisms of RNA localization, transcriptional repression of maternal messages, maternal inheritance and maternal role of CRISPR/Cas9-based genome editing, chromatin remodeling and epigenetic modifications, maternal function of nucleosomes, maternal mitochondria and energy supply, role of bacterial symbionts and their maternal transmission, acquisition of oocyte polarity and evolution of maternal effect genes, germ plasm and oosome origin and functions, mechanisms of oocyte activation and soma germ cells communication.  Currently, no other book on the market combines such a comprehensive list of subjects in one volume. Moreover, the information provided is a cross-section through oocytes from various invertebrate a nd vertebrate species, which is another unique feature of this book. The readers, therefore, get a completely new and invaluable perspective on all covered subjects. .