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Special Issue Reprint

Molecular and Clinical Advances in Understanding Early Embryo Development

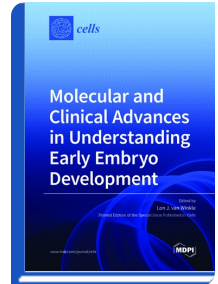
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[mdpi.com/books/pdfview/book/7274](https://www.mdpi.com/books/pdfview/book/7274)

ISBN 978-3-0365-7493-6 (hardback)

ISBN 978-3-0365-7492-9 (PDF)



This reprint considers a wide variety of topics concerning molecular and clinical advances in understanding early mammalian embryo development. The authors of various chapters of this book examine oocyte biology, preimplantation embryo development, blastocyst implantation in the uterus, and second cellular lineage differentiation. In addition, epigenetic contributions to reproduction, which may occur throughout pregnancy and in resultant offspring, are also considered. Environmentally induced epigenetic changes in germ cells can render mammalian offspring less healthy, and these changes can be difficult to reverse. Included in these changes are those caused by assisted reproductive technologies (ARTs). It remains to be determined whether the healthiest preimplantation embryos develop *in vitro* in conditions that mimic the physiological environment *in vivo* or whether simpler conditions can also foster this development *in vitro*. In this regard, a number of advances as well as challenges in ART are considered by the authors of the chapters included in this book.



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