



Molecular and Physiological Regulation of Mammalian Oocyte and Embryo Development

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Message from the Guest Editors

Reproduction is initiated through the oocyte, which can advance to the blastocyst stage after fertilization, implant, and give rise to healthy offspring. During ovarian follicular development, an extensive cell-to-cell communication takes place between the various somatic cells and the oocyte being mediated by follicular fluid, which is known to contain multiple biochemical and metabolic substances that regulate oocyte maturation and follicular growth. The stored mRNA and protein in oocytes during follicular growth can be for immediate use for oocyte growth and for further development after fertilization. The identity, amount, and stable storage of maternal transcripts and proteins is critical to support development until the embryonic genome is fully activated.

We want to create a platform on various aspects of molecular and physiological regulation of mammalian reproduction with an emphasis on oocytes and pre- and peri-implantation embryo development and implantation. Bringing different aspects of oocyte and embryo developments into one issue will trigger synergy for understanding the fascinating field of biology of reproduction in various mammalian species.





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Message from the Editor-in-Chief

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