

# Scientists demonstrate the process of mammalian egg maturation

February 5 2007

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The Rong Li lab team has answered an important question about how mammalian eggs undergo maturation through an intricate process of asymmetric cell division. The team discovered a novel pathway by which chromatin exerts command on the cell membrane to produce a specialized machinery used for cell division.

The paper, "Chromatin-derived signals control asymmetric meiotic cell division in mouse oocytes," will be published in the Feb. 6 issue of *Developmental Cell*. It examines how mammalian eggs undergo a maturation process to achieve genomic reduction, while maintaining as many useful building blocks as possible for later embryonic development.

"This study provides important clues to the molecular signals used by the chromatin to communicate with the cell membrane in order for the cell division machine to be assembled at the right place," said Rong Li, Ph.D., Investigator. "It also appears that there are significant differences between this cell division process and the studied process occurring in somatic cells. Therefore, the egg system provides an unique paradigm for understanding the basic strategies that mammalian cells use to undergo specialized cell divisions."

"The process of egg maturation is critical for reproduction," said Robb Krumlauf, Ph.D., Scientific Director. "Any mistake in this process can lead to infertility or developmental abnormalities. The Li lab's findings open the door to a better understanding of the molecular basis of cell

division during egg maturation in mammalian organisms."

Source: Stowers Institute for Medical Research

Citation: Scientists demonstrate the process of mammalian egg maturation (2007, February 5)  
retrieved 20 April 2024 from

<https://phys.org/news/2007-02-scientists-mammalian-egg-maturation.html>

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