IMEG Seminar Series

The road to global science

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November 8th, 2022, 9:00~10:00

Post-transcriptional regulation enhances the transcriptional program required for meiotic progression in mammalian testicular germ cells

This seminar series is open to all students and researchers in Kumamoto University.
The Zoom ID and passcode were sent via email. Check your inbox!

In multicellular organisms, the transmission of genetic material across the generations is made possible by meiosis, the specialized cell division that transforms a diploid germ cell into a haploid gamete. The transition from mitosis to meiosis requires that germ cells exit the mitotic cell cycle and enter the meiotic one. In mice, MEIOC and its binding partner YTHDC2 repress the mitotic cell cycle program after germ cells have entered meiosis, but their role during the transition from mitosis to meiosis remains poorly defined. Here, we use genetics, scRNA-seq, and the chemical synchronization of spermatogenesis in mouse to molecularly dissect MEIOC-dependent regulation during the transition from mitosis to meiosis in males. We find that mRNA decay mediated by MEIOC-YTHDC2 indirectly activates the meiotic transcriptional program to support the efficient initiation of meiosis.

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