BDR SEMINAR (Kobe/online hybrid)

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Tuesday, April 12, 2022

10:00-11:00

1F Auditorium, DB Building C, Kobe / Broadcast online via Zoom

Zoom meeting URL will be announced on the event day by e-mail.

※This seminar is open only to BDR members.

Study of chicken embryonic coelomic mesoderm and mouse ovarian organoid reconstitution

Summary

Animal sex-specific body formation and germ cell production are led by gonadal somatic cells. In a day 10.5 mouse embryo, gonadal somatic cell progenitors are located at the coelomic epithelium at the ventral part of the mesonephros. The development of the coelomic epithelium from the lateral plate mesoderm (LPM) has not been studied in detail.

We studied chicken embryonic coelomic epithelium developing from the ILB (intermediate mesoderm/LPM border) and forming the mesonephric capsule and gonads. We found that surrounding tissues cause dorso-ventral contrasting cell behaviors of the ILB. It has been shown that dorsal ILB cells form a mesonephric capsular epithelial sheet depending on the ECM protein of the underlying mesonephric tubule. The ventral ILB cells are activated by SHH secreted from the endoderm, differentiating into gonadal somatic cells. Based on this, we induced fetal ovarian somatic cells from mouse embryonic stem cells to reconstitute ovarian organoids. I will also provide an overview of LPM-coelomic epithelial development, which plays a central role in gonadogenesis and formation of various tissues in this seminar.

Host: Minoru Takasato
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