

The 476th IMEG Seminar

Differentiation of human amniotic ectoderm and surface ectoderm

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【Venue】 1F Conference Room, IMEG

Developmental biology has relied on animal models to uncover the general principles of embryogenesis. Nonetheless, species-specific traits in developmental processes highlight the necessity to directly study human development. In particular, extraembryonic tissues show marked variations between human and other mammalian species. Mechanisms specifying human amniotic ectoderm and surface ectoderm are unresolved due to their close similarities in expression patterns and signal requirements. Here, we developed a human pluripotent stem cell model to investigate the divergence between amniotic and surface ectoderms. In this seminar, I will introduce insights from our in vitro system combined with 3D aggregate cultures and single-cell RNA sequencing analyses, which suggest that human amniotic ectoderm and surface ectoderm are specified along a common non-neural ectoderm trajectory based on cell density.

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