2018 Spring
Life Sciences & IBB Seminar

"Fates of retinal progenitor cell in time and space"

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Development of vertebrate neural tissue is a process that adds new-born cells in spatially and temporally ordered fashion. Growth of vertebrate retina mainly occurs at the peripheral region, where retinal progenitor cells (RPCs) are derived from the structure called cilliary margin (CM). A tumor suppressor neurofibromin 2 (Nf2)/Merlin is highly expressed in the CM area by virtue of spatial-specific transcription factors, and it suppresses transition of CM progenitors into proliferative RPCs via Hippo pathway. The *Nf2*-deficient RPCs simply expand themselves without neurogenesis, while normal RPCs not only renew themselves but also generate retinal neurons to make neuronal repertoires of mature retina. In contrast, the PI3K-Akt-mTORC1 pathway enhances the RPC proliferation without interfering neurogenesis from the RPC. Importantly, the mTORC1-dependent retinal growth and development mediate immunoproteasome induction. Together, our findings reveal intracellular signaling pathways that coordinately regulates RPC specification, proliferation, and differentiation for the retinal development.

- **Date: 4:30PM/Mar. 23(Fri.)/2018**
- **Place: Auditorium(1F), Postech Biotech Center**
- **Inquiry: Prof. Seung-Jae Lee (279-2351)**

*** This seminar will be given in English.**
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