16th Multicellular Autonomy Seminar

Why the Brain Shrinks? Unraveling Neural Stem Cell Vulnerability in Microcephaly

October 3rd (Fri), 2025 | 16:00 – 17:00

Place: Lecture room, Lecture Building 1F, Fac. of Pharm. Sci., Kyoto Univ.
会場: 京都大学 薬学部教育棟 1 階 マルチメディア講義室 (MAP)

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Mutations in genes involved in mitosis are frequently found in primary microcephaly (MCPH), a condition characterized by reduced brain size at birth. Interestingly, many of these mutations specifically affect brain development, without impacting other organs or overall body growth. To investigate the origins of this selective vulnerability in neural stem cells during development, we employ a range of model systems, including mice, patient-derived fibroblasts, and iPSC-derived neuronal rosettes. Using a combination of high-resolution microscopy, cell pattern analysis, and acute cytoskeleton perturbations, our work reveals a mechanism that may underlie the heightened sensitivity of neural stem cells to chromosome mis-segregation.

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令和３年度～７年度 学術変革領域研究（A）
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「競合的コミュニケーションから迫る多細胞生命システムの自律性」
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