

Psychiatric disorders: perturbed brain development and circuit maturation revealed by single-cell omics

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場所： 神戸大学大学院医学研究科 外来診療棟 大講義室

<https://kobe-u-ac-jp.zoom.us/j/84487538053> Passcode: 348805

Brain development is a tremendously complex process in which a myriad of neuronal and non-neuronal cell types is generated and assembled into functional circuits in a highly organized manner. Many psychiatric disorders arise when developmental processes are perturbed by various genetic and environmental factors. Given high cellular diversity in the brain, for most psychiatric disorders, we are still far from understanding how they arise and what types of neurons and circuits underlie functional impairments in psychiatric disorders. Recent technological advance in single-cell analysis allowed us to address how psychiatric risk factors perturb brain development at single-cell resolution. In my presentation, I will show recently published and unpublished data from my lab, where we implemented single-cell analysis to identify how neuronal subtypes and their networks are perturbed during brain development, followed up by functional experiments to validate single-cell data.

References

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2. Vasistha NA, ..., [Khodosevich K](#). Maternal inflammation has a profound effect on cortical interneuron development in a stage and subtype-specific manner. *Mol Psychiatry* 25, 2313-2329 (2020).
3. Pfisterer U, ..., [Khodosevich K](#). Identification of epilepsy-associated neuronal subtypes and gene expression underlying epileptogenesis. *Nature Commun* 11, 5038 (2020).
4. [Khodosevich K](#), Sellgren CM. Neurodevelopmental disorders-high-resolution rethinking of disease modeling. *Mol Psychiatry* 28, 34-43 (2023).

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