

The wiring mechanisms of a cortical interneuron subtype

Date : December 21th (Tuesday), 2021

Time : 9:00am - 10:30am

Place : Online via Zoom

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Cortical inhibitory interneurons (INs) play a pivotal role in balancing/shaping brain activity. Their malformation and malfunction have been implicated in a variety of brain disorders such as epilepsy, schizophrenia, and autism. Despite their functional significance, the wiring principle of IN circuits remains largely unknown. Cortical INs comprise diverse neuronal subtypes, each of which establishes specific local circuits and mediates a unique inhibitory function, and therefore need to be dissected in a cell-type specific manner. Taking advantage of genetic approaches that enable a cell-type specific dissection, we have explored the molecular/cellular mechanisms underlying the assembly of IN circuits. In this presentation, I will talk about two major developmental events that are critical for building IN circuits: axonal branching and synaptic specificity. I will demonstrate 1) Acetylcholine regulates axonal arborization of a cortical IN subtype and 2) IgSF11, a homophilic cell adhesion molecule, dictates laminar synaptic specificity of a cortical IN subtype. We hope the outcome from our research will provide the basis for reconstructing functional neuronal circuits in the damaged/diseased brain.

聴講を希望される方は12月20日（月）12:00 までに以下のGoogleフォームにて参加登録をお願いします。

Please register in advance by 12:00 JST on December 20th (Monday).

<https://forms.gle/Vb8aVmwEgqsv8UoD6>

