



CDB SEMINAR

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Wednesday, December 28, 2011

16:00~17:00 A7F Seminar Room

Neuronal cilia; regulatory mechanism of ciliary length and function in feeding behavior

Summary

Cilia are microtubule-based organelles that extend from basal bodies and form on the surface of cells. Cilia are essential for the vertebrate neural system providing a sensory compartment for various receptors. For example, light sensitive G-protein coupled receptor (GPCR), opsin, is localized in the photoreceptor outer segments which are formed from primary cilia. In the olfactory neurons, olfactory receptors localizes on ciliary surface. These sensory neurons develop relatively long cilia. How ciliary length is regulated? I would like to talk about this issue with recent results using mutant zebrafish and mice. Neurons in the brain including the hypothalamus and hippocampus possess cilia. Neural cilia in the brain were identified 50 years ago, however, their functions is still largely unknown. Recently, it was reported that defects of neural cilia in the brain affect feeding behavior and cause hyperphagia and obesity. In addition, several GPCR including dopamine and somatostatin receptors were known to localize in neuronal cilia. Cilia seems to be essential for normal functions of central nervous system including hypothalamus, however, they are largely unknown. In this talk, I also focus the functions of neuronal cilia in the feeding behavior.

Host:

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