18th nanobiofluids seminar

2025 Oct 27th, 16:00-17:00

Yamauchi Hall, Shiran Kaikan, Kyoto University,

交通アクセス | 京都大学大学院医学研究科・医学部

Zoom registration link

Regulatory mechanisms of caspase activation enabling diverse physiological functions

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Abstract

Caspases are cysteine proteases essential for apoptosis. Because apoptosis in vivo occurs sporadically and is executed rapidly, it has been difficult to capture these events directly. We have investigated the physiological functions of caspases using in vivo imaging of caspase activation combined with genetic approaches. Our studies revealed that caspases contribute to morphogenetic movements and to the rapid switching of morphogen signaling through the removal of signaling centers during neural development. Caspase also plays a role in rapidly eliminating cells that fail to differentiate during neural development, thereby contributing to the formation of the alignment pattern of the external sensory organs. Furthermore, caspases were shown to actively participate in inflammation. As our next challenge, we aim to elucidate the precise regulation of cellular functions by caspases by investigating caspase activation at specific intracellular locations. In this seminar, I will introduce recent studies on the mechanisms of caspase activation at specific intracellular locations and their physiological functions.

Biography

Dr. Masayuki Miura is a Director-general of the National Institute for Basic Biology, Okazaki. He earned his B.Sc. and M.Sc. at the Department of Biology, Tokyo Metropolitan University. He completed his Ph.D. at Biological Chemistry from Osaka University. He worked at National Institute for Basic Biology as a Post-Doc, at Keio University School of Medicine as an Instructor, at Massachusetts General Hospital as a Post-Doc, at Institute of Basic Medical Sciences, Tsukuba University as a Lecturer, at Graduate School of Medicine, Osaka University as an Associate Professor, at Brain Science Institute, RIKEN as a Team Leader, and at Graduate School of Pharmaceutical Sciences, the University of Tokyo as a Professor. Dr. Miura served as Dean of the Graduate School of Pharmaceutical Sciences at the University of Tokyo and has been a Research Supervisor for PRESTO at JST.

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