The 143rd Central Research Laboratory Seminar
(Joint seminar with Medical Innovation Research Center)

Distinguishing α-synuclein serine-129 phosphorylation in health and disease

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Date&Time March 3 (Tue), 2026, 17:00-18:00

Venue Science Cafe (6th floor, Medical Science Research Bldg)

α-Synuclein (αS) phosphorylation at serine-129 (pS129) is a widely used surrogate marker of pathology in Parkinson's disease (PD) and other Lewy body diseases. However, we recently demonstrated that phosphorylation of αS S129 is also a physiological activator of synaptic transmission. In a feed-forward fashion, activity-dependent pS129 positively regulates neurotransmission. These results raise the critical question of whether pS129 in physiological (normal) and pathological (abnormal) states can be distinguished. I'll discuss the differences in the biological properties of pS129 in these states. Distinguishing normal and abnormal pS129 will help us better understand the processes leading to the pathology and refine pS129 as a marker for PD and LBD.

This is a formal seminar in part of Basic Science Fundamentals & Multidisciplinary Seminars.

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