



# 分子神経科学セミナー

## Presynaptic and Nuclear Roles of Importins in CNS Neurons

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Synapse to nucleus signaling is required for diverse functions in the nervous system. One of the proposed mechanisms for such communication involves importins, linked to the dynein molecular motor, for the retrograde transport of signals in neuronal processes. Mammals express up to six different isoforms of importin  $\alpha$ , which together with importin  $\beta$ 1 form high affinity transportation complexes for specific cargos. We addressed the roles of these importin isoforms in mammalian CNS by evaluation of a systematic series of importin KO mice. A comprehensive battery of behavioral tests was used to investigate spontaneous and novelty-induced locomotion, basal ganglia function, motor coordination, neuromuscular integration, anxiety-related behaviors and memory. Interestingly our results suggest that subcellular knockout of importin  $\beta$ 1 in processes causes a memory phenotype, while a specific importin  $\alpha$  deletion causes a reduction of anxiety-related behaviors. The latter phenotype suggests new possibilities for pharmacological intervention in anxiety disorders.

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15:00~

**場所** 最先端医療イノベーションセンター棟 1階  
マルチメディアホール

**お問い合わせ**

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