Causes and prevention of progressive locomotor disruption in a Drosophila model of Parkinson's disease

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Résumé

Expression of Parkinson-disease-associated α-synuclein in all *Drosophila* neurons induces age-related deficits in startle-induced locomotion. We previously identified a group of 15 dopaminergic neurons in the PAM (protocerebral anterior medial) cluster of the brain whose dysfunction correlates with climbing deficiencies in this model. These neurons selectively connect to neurons of the mushroom bodies and their connections are rapidly reduced when they express α-synuclein. Our recent experiments have focused on the function of these dopaminergic neurons in locomotion control and the mechanisms by which the expression of α-synuclein in these cells leads to accelerated locomotor decline. These studies have revealed a new cellular mechanism that may play a role in the pathogenesis of Parkinson's disease.

Mots-Clés: Parkinson's disease, drosophila

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