

# Plasticity of basal ganglia astrocytes in Parkinson's disease and L-DOPA-induced dyskinesia

<https://neurodegenerationresearch.eu/survey/plasticity-of-basal-ganglia-astrocytes-in-parkinsons-disease-and-l-dopa-induced-dyskinesia/>

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Sweden

## Title of project or programme

Plasticity of basal ganglia astrocytes in Parkinson's disease and L-DOPA-induced dyskinesia

## Source of funding information

The Swedish Brain Foundation

## Total sum awarded (Euro)

€ 108,814

## Start date of award

01/07/2015

## Total duration of award in years

2.5

## Keywords

### Research Abstract

This project may open up completely new avenues of investigation. If maladaptive astrocytic plasticity plays a role in LID, current pathophysiological models will need to accommodate the role of astrocytes in a variety of phenomena so far associated with PD and LID, ranging from microvascular (Ohlin et al., 2011) and synaptic plasticity (Fieblinger and Cenci, 2015) to neuronal synchronicity and pathological oscillations (Oswal et al., 2013, Nambu and Tachibana, 2014). Moreover, the project is of great relevance to understanding other types of dyskinesias,

such as those developing following intrastriatal transplantation of embryonic DA neurons in PD patients (Lane and Winkler, 2012). Differently from LID, graft-induced dyskinesia is not associated with fluctuating striatal levels of DA and its understanding has thus far remained elusive. Importantly, pathological investigations of striatal tissue from transplanted PD patients have revealed a pronounced gliotic reaction around the grafts (Kordower et al., 2008, Kurowska et al., 2011), and unraveling the functional consequences of such a phenomenon will be extremely important. In the future, we would like to expand this line of research into an ambitious program including, on one hand, a preclinical evaluation of new treatments targeting maladaptive astrocytic plasticity and, on the other hand, biomarker studies and early intervention trials in human patients.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

Sweden

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A