

# Characterization of a Parkinson's disease gene DJ-1 in regulatory T cells

<https://neurodegenerationresearch.eu/survey/characterization-of-a-parkinsons-disease-gene-dj-1-in-regulatory-t-cells/>

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Luxembourg

## Title of project or programme

Characterization of a Parkinson's disease gene DJ-1 in regulatory T cells

## Source of funding information

FNR

## Total sum awarded (Euro)

€ 162,249

## Start date of award

01/03/2014

## Total duration of award in years

3

## Keywords

### Research Abstract

DJ-1, also known as PARK7, is one of the familial Parkinson's disease (PD) genes. Defects in human DJ-1 are the cause of autosomal recessive early-onset PD. DJ-1 is a redox-responsive protein and is long thought to mainly play an essential protective role in neurons. DJ-1 is ubiquitously expressed throughout the body including CD4<sup>+</sup> T cells rather than only in brain and is involved in several biological functions. However, it is unclear whether DJ-1 plays a role in T cells. Our preliminary results show that DJ-1 might play a vital role in mediating the function of CD4<sup>+</sup> T cells. We here seek to characterize a novel role of DJ-1 in regulatory CD4<sup>+</sup> T cells, currently recognized as CD4<sup>+</sup>CD25<sup>+</sup>FOXP3<sup>+</sup> regulatory T cells (Tregs), which are well-known

immune suppressor cells in many peripheral diseases and emerging to play a role in several neurodegenerative diseases. A systematic investigation on the role of DJ-1 in Tregs will provide deep insight into the question whether and how DJ-1 mediates Treg suppressor function and will pave the way for a potential therapeutic target for autoimmune and other related diseases.

**Further information available at:**

<https://www.fnr.lu/projects/characterization-of-a-parkinsons-disease-gene-dj-1-in-regulatory-t-cells-2/>

**Types:**

Investments < €500k

**Member States:**

Luxembourg

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A