

# Dopaminergic Neuronal Survival During Aging and Neurodegenerative Stress

<https://neurodegenerationresearch.eu/survey/dopaminergic-neuronal-survival-during-aging-and-neurodegenerative-stress/>

## Principal Investigators

Kennedy, Timothy E

## Institution

McGill University

## Contact information of lead PI

### Country

Canada

## Title of project or programme

Dopaminergic Neuronal Survival During Aging and Neurodegenerative Stress

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CIHR

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01/04/2013

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5

## Keywords

### Research Abstract

Dopamine is an important mediator of a wide variety of physiological processes and is implicated in diseases of aging, including the premature loss of midbrain dopaminergic neurons in Parkinson's disease. Although some factors that regulate dopaminergic neuronal survival have been found, effective therapies to treat age related degeneration have not been identified. The cause of neuronal loss in most patients with Parkinson's disease is considered "idiopathic" or unknown. Recent evidence suggests that some patients with Parkinson's disease have deficiencies in the gene for a secreted protein named netrin-1 or in the genes encoding its receptors. The midbrain dopaminergic nerve cells are particularly rich in receptors for netrin-1,

and both the midbrain dopaminergic nerve cells and their targets normally express high concentrations of netrin-1. Our group and others have discovered that netrin-1 promotes the survival of nerve cells. We have recently obtained evidence that reduced expression of a netrin-1 receptor results in progressive loss of midbrain dopaminergic neurons with aging. We propose to investigate the idea that a deficiency in netrin-1 function can lead to dopamine neurons becoming more vulnerable to age related neurodegenerative stresses. Our proposed study aims to identify the function of a novel factor, which appears to be defective in some patients with age related neurodegenerative disease that we hypothesize is required to maintain the health of dopaminergic neurons.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

Canada

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

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