

# Acceleration of Parkinson pathogenesis by chronic low-dose rate gamma exposure – OSTINATO

<https://neurodegenerationresearch.eu/survey/acceleration-of-parkinson-pathogenesis-by-chronic-low-dose-rate-gamma-exposure-ostinato/>

## Principal Investigators

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Norway

## Title of project or programme

Acceleration of Parkinson pathogenesis by chronic low-dose rate gamma exposure - OSTINATO

## Source of funding information

RCN

## Total sum awarded (Euro)

€ 32,570

## Start date of award

01/06/2013

## Total duration of award in years

3.5

## Keywords

### Research Abstract

As is known from radiotherapy patients, high-dose ionizing radiation in particular to children has the potential to increase the risk of premature dementia or other neurodegenerative diseases (ND) (Kempf et al 2012). The evidence for such a link in low-dose exposed cohorts is less clear, probably because of inadequate diagnostic tools. We reason that low radiation doses to the brain, in particular early in life, may cause an accelerated development of ND conditions such as dementia or Parkinson Disease (PD). A known risk-factor for ND is oxidative stress to

the neuronal tissues, and this is known to be the preferential mode of damage at chronic low-dose rate ionising radiation. We therefore propose to evaluate the impact of a defective repair system for ROS induced DNA damage (Ogg1 k.o.) towards the progression of neurological deficiencies in a PD mouse model (PitxEYL/EYL) after pre- and postnatal chronic irradiation using the recently EU/RCN-funded unique FIGARO facility. To make maximum usage of the FIGARO facility, we will also store other tissues relevant for non-cancer diseases (heart, muscle, liver, blood, eyes) in a central repository to be used by other DoReMi partners.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

Norway

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A