

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

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

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Country

Norway

Title of project or programme

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

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RCN

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€ 40,375

Start date of award

01/01/2014

Total duration of award in years

3

Keywords

Research Abstract

This project is part of an application to the DoReMi internal call to consortium partners for integrated activities. The project addresses the collaborative projects across WPs and the access to infrastructure part of the call. The project is a collaboration between three DoReMi consortium partners: UMB/CERAD (University of Life Sciences, Centre of Excellence in Environmental Radioactivity), Norwegian Institute of Public Health (NIPH) and Helmholtz Zentrum München (HMGU, Germany). The proposal had been accepted by the DoReMi

consortium. The project application summary refers to UMBs contribution to the Ostanito project.

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). The central hypothesis of the project is 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.

Groups of mice of wt, Pitx3EYL/EYL and Ogg1^{-/-} genotypes and the combination of the latter two (compound homozygote Pitx3EYL/EYLOgg1^{-/-}) will be subjected to the chronic gamma exposure either pre- and postnatally or postnatally only. The entire radiation exposure time will be 2 months with accumulated doses of 0 Gy (control), 0.1 Gy (LD) or 2 Gy (HD). UMB will have responsibility for the mice irradiation. the other partners (HMGU and NIPH), will be responsible for behaviour and biological analysis.

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:

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