Cell death regulation

https://neurodegenerationresearch.eu/survey/cell-death-regulation/

Principal Investigators

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Contact information of lead PI
Country

United Kingdom

Title of project or programme

Cell death regulation

Source of funding information

MRC

Total sum awarded (Euro)

€ 5,201,811

Start date of award

01/04/2011

Total duration of award in years

5.0

The project/programme is most relevant to:

Neurodegenerative disease in general

Keywords
Research Abstract

Mitochondrial dysfunction is a common event in cell toxicity and in several disease states. Mitochondria can be targeted by chemical agents such as the pesticide, rotenone, or be involved in the signalling and execution of the death programme by endogenous molecules such as members of the Bcl-2 family of proteins. Loss of mitochondrial energy production is one consequence of toxic insults. Another major role of mitochondria during cell injury is to release proteins that modulate the cell death machinerYes (i.e. caspases and their endogenous inhibitors).||This group focuses its research on the regulation of mammalian inhibitors of

apoptosis proteins (IAPs) by mitochondrial reaper-like proteins like Smac/DIABLO and the serine protease Omi/HtrA2. The role of these proteins is addressed through the characterization of the phenotype of mice deficient in Omi/HtrA2 and mice deficient in both Omi/HtrA2 and Smac/DIABLO. The substrate specificity of Omi/HtrA2 and how its proteolYestic activity is regulated are also part of this project. To overcome the redundancYes present in mammalian systems, the importance of IAPs and mammalian reaper-like proteins for the cell-autonomous process of apoptosis is addressed by concomitantly removing such proteins from tissue culture cells using vector-delivered small interfering RNAs (siRNAs).||Understanding the role of mitochondrial derived proteins in the regulation of a major death pathway will likely provide new targets for the development of pro- or ant-apoptotic drugs.

Lay Summary
Further information available at:

Types:
Investments > €500k

Member States:
United Kingdom

Diseases:
Neurodegenerative disease in general

Years:
2016

Database Categories:
N/A

Database Tags:
N/A