

Prefrontal attention circuitry: Mechanisms of deregulation and restoration in brain disorders

<https://neurodegenerationresearch.eu/survey/prefrontal-attention-circuitry-mechanisms-of-deregulation-and-restoration-in-brain-disorders/>

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Country

Canada

Title of project or programme

Prefrontal attention circuitry: Mechanisms of deregulation and restoration in brain disorders

Source of funding information

CIHR

Total sum awarded (Euro)

€ 466,534

Start date of award

01/04/2014

Total duration of award in years

5

Keywords

Research Abstract

Attention is essential for the basic activities of daily life and successful participation in the workplace. Attention deficits are prevalent in psychiatric and neurological illnesses and contribute disproportionately to the disease burden associated with these illnesses. For example, both mood disorders and early Alzheimer's disease are associated with disturbances in attention, and these brain disorders will affect a considerable proportion of Canadians in their lifetimes. Yet, little is known about the neurobiological mechanisms that underlie the disruption of attention circuitry in these conditions. Over the past five years, my laboratory has made great strides in understanding the cellular and molecular mechanisms required for optimal

performance of prefrontal attention circuitry. This work forms the basis for the current proposal to probe the mechanisms by which attention circuitry and performance are disrupted in mouse models of mood disorders and Alzheimer's disease. The goals of this proposal are to define the mechanisms by which attention circuitry is disrupted in brain disorders, to investigate cellular and molecular mechanisms of therapeutic intervention, and to measure the consequences of these treatment approaches for attentional performance. A major focus of this grant is to restore appropriate responsiveness of attention circuitry and normal attentional behaviour.

Further information available at:

Types:

Investments < €500k

Member States:

Canada

Diseases:

N/A

Years:

2016

Database Categories:

N/A

Database Tags:

N/A