Understanding the impact of DNA demethylation in Motor Neuron Disorders

Fact Sheet

Project Information

MANTIS

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10.3030/896715

Project closed

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10 April 2020

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End date
20 October 2022

Funded under
EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions

Total cost
€ 196 707,84

EU contribution
€ 196 707,84

Coordinated by
INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE
France

Project description

Insight into the epigenetic profile of motor neuron disorders

Motor neuron disorders (MND), comprising spinal muscular atrophy (SMA) and amyotrophic lateral sclerosis (ALS), are a group of devastating diseases mainly manifested by motor neuron degeneration. Emerging evidence suggests that disease severity is modulated through epigenetics in which DNA methylation plays a dominant role. The scope of the EU-funded MANTIS project is to uncover the epigenetic mechanism gone awry in MND. Leveraging cutting-edge techniques from next-generation sequencing to single-cell mass cytometry and patient-derived iPSCs, the scientists will explore the role of the ten-eleven translocation (TET) enzymes. In DNA methylation, TETs are responsible for balancing the hydroxymethylated

cytosines (5hmC) to favor gene expression. The therapeutic potential of demethylation will also be explored to correct the epigenetic profile and restore the disrupted gene expression.

Fields of science (EuroSciVoc)

natural sciences > biological sciences > biochemistry > biomolecules > proteins > **enzymes**

Keywords

Motor neuron | 5hmC | 5mC | Ten eleven translocation | DNA methylation | DNA demethylation | DNA hydroxymethylation | Spinal Muscular Atrophy | Amyothrophic Lateral Sclerosis | Survival of Motor Neuron (SMN)

Programme(s)

H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions MAIN PROGRAMME

H2020-EU.1.3.2. - Nurturing excellence by means of cross-border and cross-sector mobility

Topic(s)

MSCA-IF-2019 - Individual Fellowships

Call for proposal

H2020-MSCA-IF-2019

See other projects for this call

Funding Scheme

MSCA-IF - Marie Skłodowska-Curie Individual Fellowships (IF)

Coordinator

INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE

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Address

RUE DE TOLBIAC 101
75654 Paris
France

Region

Ile-de-France > Ile-de-France > Paris

Activity type

Research Organisations

Links

Contact the organisation Website
Participation in EU R&I programmes
HORIZON collaboration network

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