

# Validation of molecular neuroimaging biomarkers in Huntington's disease in view of therapeutic trials targeting the Krebs cycle

<https://neurodegenerationresearch.eu/survey/validation-of-molecular-neuroimaging-biomarkers-in-huntingtons-disease-in-view-of-therapeutic-trials-targeting-the-krebs-cycle/>

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### Country

France

## Title of project or programme

Validation of molecular neuroimaging biomarkers in Huntington's disease in view of therapeutic trials targeting the Krebs cycle

## Source of funding information

ANR

## Total sum awarded (Euro)

€ 302,824

## Start date of award

01/10/2014

## Total duration of award in years

4

## Keywords

### Research Abstract

Energy defects in Huntington disease (HD) would constitute extremely informative imaging biomarkers of disease progression and readouts in clinical trials. Our translational project aims at measuring "dynamic" parameters of brain energy metabolism in a transgenic rat model and in affected and presymptomatic HD carriers using MR spectroscopy (MRS). Methodological breakthroughs will include the determination of the synthesis rate of phosphocreatine using

saturation transfer  $^{31}\text{P}$  MRS, the turnover of the Krebs cycle using  $^{13}\text{C}$  MRS, and the establishment of brain maps of pH and glutamate using Chemical Exchange Saturation Transfer (CEST). Likewise, Partners 1 and Partner 2 will assemble their unique MRS setups and well-recognized expertise in HD. Through the implementation of cutting-edge MR methods, we will gain critical insight on the mechanisms underlying brain energy defects in HD and identify functional biomarkers to be used in clinical trials such as those targeting the Krebs cycle.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

France

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A