

# The contribution of epigenetic phenomena to Alzheimer's disease: an integrated genetic-epigenetic analysis

<https://neurodegenerationresearch.eu/survey/the-contribution-of-epigenetic-phenomena-to-alzheimers-disease-an-integrated-genetic-epigenetic-analysis/>

## Principal Investigators

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### Country

United Kingdom

## Title of project or programme

The contribution of epigenetic phenomena to Alzheimer's disease: an integrated genetic-epigenetic analysis

## Source of funding information

Alzheimer's Society

## Total sum awarded (Euro)

€ 273,509

## Start date of award

31/08/2015

## Total duration of award in years

2.5

## Keywords

### Research Abstract

Alzheimer's disease (AD) is a multi-factorial and complex disease, with the risk of developing disease still largely unknown despite numerous genetic and epidemiological studies over recent years. This project plans to integrate large-scale multi-omic, clinical and epidemiological data across multiple brain regions and blood to better understand the molecular causes of AD. Given the recent evidence from us and others for genome-wide epigenetic changes in AD brain and

blood, this project also proposes the first meta-analysis of AD epigenetics. Together with the four applicants, this project brings together world-renowned expertise from nine UK and US collaborators. There are five specific aims that are fully achievable in the project period: (1) to perform the first meta-analysis of genome-wide epigenetic variation (EWAS) in AD, (2) to investigate the relationship between genetic and epigenetic variation in AD and whether epigenetic variation could be causative in disease, (3) to investigate the relationship between genetic/epigenetic variation and gene expression in AD, (4) to determine the relative contribution of epigenetic variation to disease risk and (5) to identify novel epigenetic biomarkers for AD. Data is already available from more than 2000 independent donors with, in some cases, multiple brain tissues and blood analysed. This project represents excellent value for money for the Society, as numerous publications and a better understanding of the molecular causes of AD is fully expected within the project timeframe.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

United Kingdom

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A