

Imaging and genetic biomarkers for Alzheimers disease

<https://neurodegenerationresearch.eu/survey/imaging-and-genetic-biomarkers-for-alzheimers-disease/>

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Country

USA

Title of project or programme

Imaging and genetic biomarkers for Alzheimers disease

Source of funding information

NIH (NIA)

Total sum awarded (Euro)

€ 1,260,641.28

Start date of award

01/04/2012

Total duration of award in years

5

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Brain Disorders... Clinical Research... Clinical Research - Extramural... Dementia... Genetic Testing... Genetics... Human Genome... Neurodegenerative... Neurosciences... Prevention... Translational Research

Research Abstract

DESCRIPTION (provided by applicant): Alzheimer's disease (AD) presently affects over 5 million Americans and is projected to affect 15 million by 2050. Biomarkers are presently the only feasible approach for diagnosing and quantifying disease-associated changes in the latent AD stage during which a successful disease-modifying therapeutic intervention would realize the greatest impact. High-throughput neuroimaging and genetics have a proven track record for critically advancing our understanding of disease mechanisms and promoting therapeutic development. Our goals are to develop a multimodal biomarker AD risk assessment tool using the prospectively collected imaging, genetic and gene expression ImaGene data set. We propose to apply advanced imaging genetics statistical approaches to achieve the following three aims: 1) identify a discovery set of AD-relevant candidate imaging and genetic biomarkers; 2) select gene expression variables with strong evidence for biological relevance to AD; and 3) develop and validate a multimodal classifier capable of accurately assessing one's risk for future conversion to AD. The discovery of critical disease-related pathways will fundamentally advance our understanding of the molecular and genetic triggers of AD and bring us closer to genomic-based interventions and personalized risk assessment.

Lay Summary

PUBLIC HEALTH RELEVANCE: The proposed research is relevant to public health as there is an urgent need for biomarkers capable of early and presymptomatic diagnosis and for discovery of critical disease-associated pathways. The proposed research is highly relevant to the mission of NIA because it will 1) identify and test key imaging and peripheral blood genetic biomarkers that when combined will help diagnose early AD and 2) critically inform AD drug development.

Further information available at:

Types:

Investments > €500k

Member States:

United States of America

Diseases:

Alzheimer's disease & other dementias

Years:

2016

Database Categories:

N/A

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