Repressor Element 1-Silencing Transcription Factor (REST): A blood-based biomarker for Alzheimer’s disease linking molecular neuropathology with psychological stress

https://www.neurodegenerationresearch.eu/survey/repressor-element-1-silencing-transcription-factor-rest-a-blood-based-biomarker-for-alzheimer%c2%92s-disease-linking-molecular-neuropathology-with-psychological-stress/

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Country

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Title of project or programme

Repressor Element 1-Silencing Transcription Factor (REST): A blood-based biomarker for Alzheimer’s disease linking molecular neuropathology with psychological stress

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Alzheimer's Research UK

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€ 67,745

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01/10/2015

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1.2

Keywords
Research Abstract
We have identified the mechanism driving Alzheimer’s disease. It is linked to a protein called REST (repressor element 1-silencing transcription factor), which regulates the brain’s response to stress. REST levels are reduced in the brains of Alzheimer’s sufferers and altered in

psychological disorders linked with an abnormal stress response, including depression and anxiety, which are also risk factors for Alzheimer's: REST levels connect psychological risk for Alzheimer's with the biological mechanisms driving its pathology. We have measured REST in blood and found for the first time that, as in brain, it is reduced in Alzheimer's disease.

We now want to examine a larger set of patients and controls and also people with Mild Cognitive Impairment to determine if REST levels in blood are an early indicator of progression to Alzheimer's, and if they correlate with REST levels in the brain and other factors related to Alzheimer's, such as brain size and memory performance.

We will also examine REST in healthy aged subjects compared to those with depression or anxiety, and will investigate the effect of a stress-reduction intervention on REST levels. This work will improve our ability to diagnose people at risk for Alzheimer's and identify novel methods of intervention.

Further information available at:

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Investments < €500k

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United Kingdom

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Years:
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